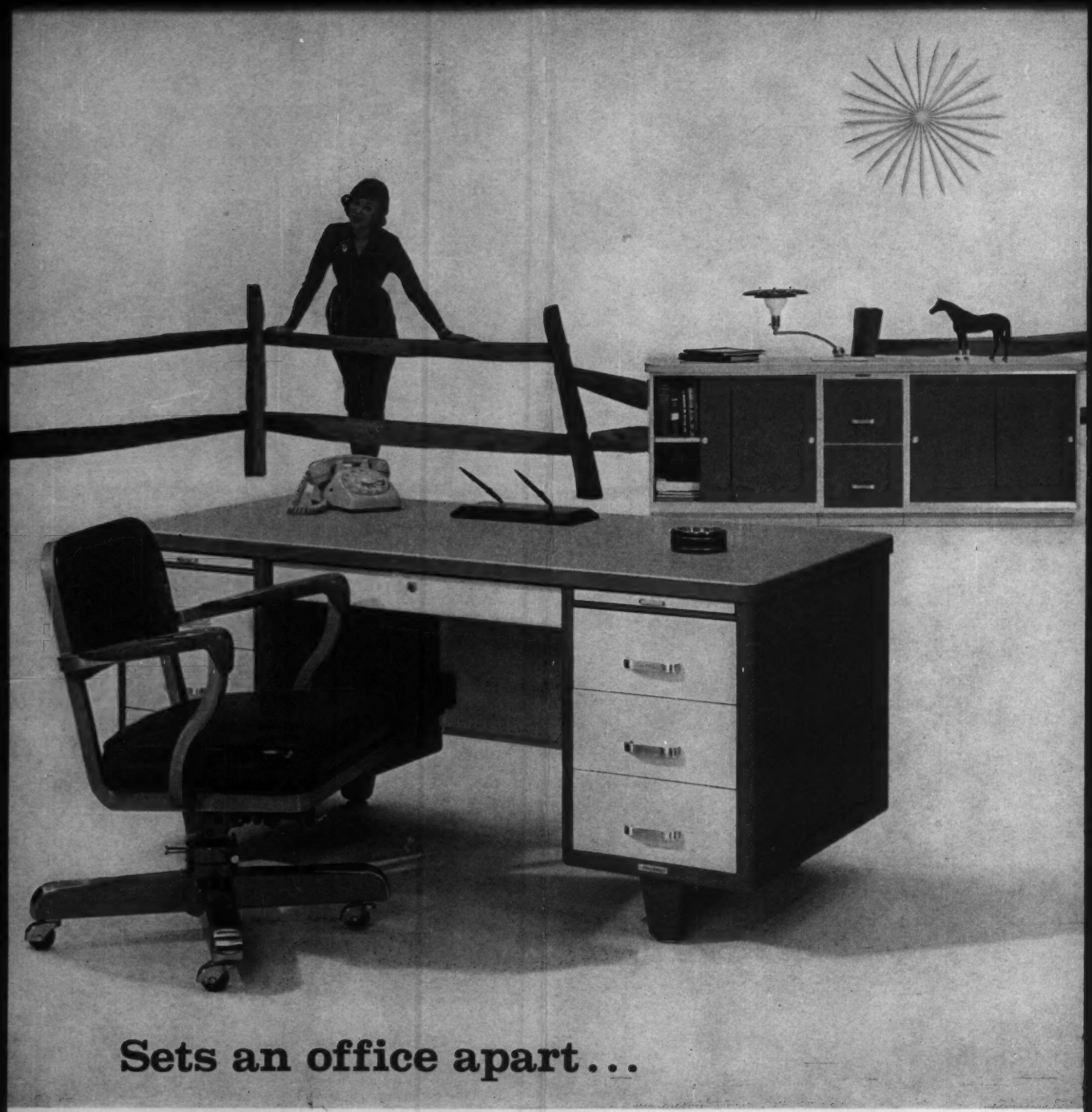
Office Management
and AMERICAN BUSINESS

The Magazine of Administration and Systems · November 1960

Vice President Administration – the target for tomorrow
Retail chain gains improved sales figures through electronics
How computers will be the first to spot the next president



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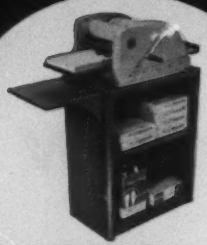
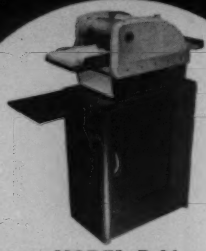


MODEL D-30
All-purpose, hand-operated.



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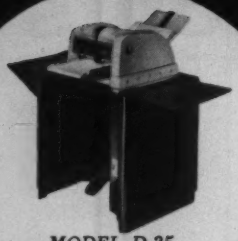
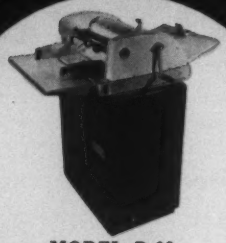
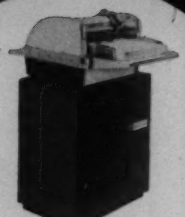


MODEL D-35
9-inch, electric, seated model.



MODEL D-60
Hand-operated, heavy-duty, 18-inch.



MODEL D-70
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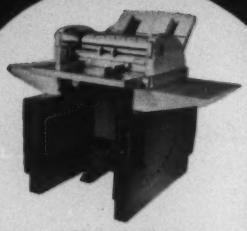

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Office Management
and AMERICAN BUSINESS

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Published Monthly by
GEYER-McALLISTER PUBLICATIONS
Andrew Geyer-McAllister, Inc., Est. 1877
212 Fifth Ave., New York 10, N. Y.
MUrray Hill 9-4411

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The use of electronic data processing to enhance business efficiency has been a perennial subject in this magazine. A related use of computers is their ability to forecast the winner of the presidential election. See story, page 22.

November, 1960
Volume XXI, Number 11

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Chairman of the Board: M. A. Geyer; *President*: Donald McAllister; *Senior Vice President*: John M. Smythe; *Vice-Presidents*: Arthur P. Hibbard, James E. Neary, Jr., Fred G. Steinhilber, Robert M. Smith; *Controller*: Arthur M. Spence. BRANCH OFFICES: BOSTON (16): 419 Boylston St. (Rm. 701), Kenmore 6-7333, *Charles G. Kretschmar;* CHICAGO (1): 228 N. La Salle St., State 2-2911, Arthur Hutchison, David Hanley, Robert J. Smythe; LOS ANGELES (5): 740 S. Western Ave., Dunkirk 7-6149, *Chris Dunkle & Associates, J. R. Iander (Editorial Representative)*; SAN FRANCISCO (11): 420 Market St., Sutter 1-8354, *Chris Dunkle & Associates.*

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(Circle No. 72 on Reader Inquiry Card)

Coming Events

NASS 18th Annual Convention, Philadelphia, October 30 - November 1.

Sponsor: National Association of Suggestion Systems.
Place: Sheraton Hotel.

Seventh Institute on Electronics in Management, Washington, D. C., October 31-November 4.

Sponsor: American University.
Place: Downtown Center, American University.

OEMI Business Equipment Exposition, Los Angeles, November 1-4.

Sponsor: Office Equipment Manufacturers Institute.
Place: Los Angeles Memorial Sports Arena.

APICS Third Annual National Conference and Technical Show, Detroit, November 3-4.

Sponsor: American Production & Inventory Control Society.
Place: Sheraton-Cadillac Hotel.

IMS 23rd Annual National Industrial Engineering and Management Clinic, Chicago, November 5-6.

Sponsor: Industrial Management Society.
Place: Conrad Hilton Hotel.

Execurama Business Exposition, Los Angeles, November 15-17.

Sponsor: The Stromme Co.
Place: Hollywood Palladium.

NICB General Session, Pittsburgh, November 17.

Sponsor: National Industrial Conference Board, Inc.
Place: Penn-Sheraton Hotel.

Fourth Annual International Visual Communications Congress, Chicago, December 3-6.

Sponsor: Society of Reproduction Engineers and Association of Professional Draftsmen.
Place: Hotel Sherman.

Eastern Joint Computer Conference, New York, December 13-15.

Place: Hotel New Yorker & the Manhattan Center.

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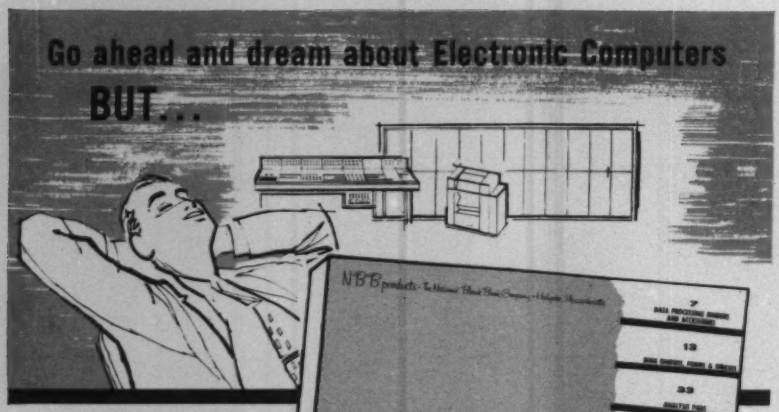

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Keeping
Help
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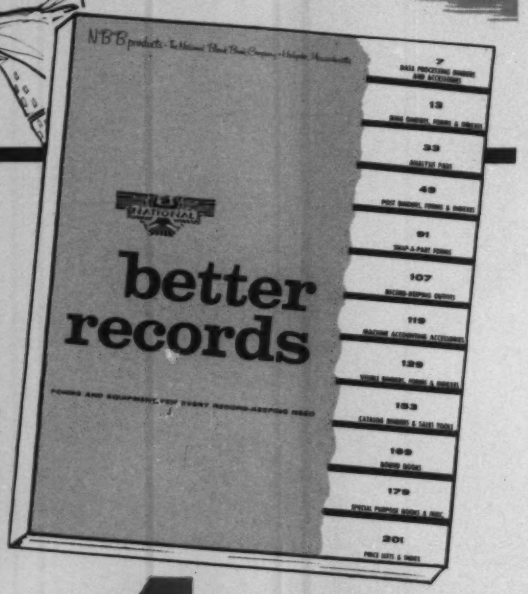

This 240-page encyclopedia of record-keeping forms, housings etc., shows over 3,000 items, including snap-apart forms, standard accounting forms and pads, housings, custom-made Decorated Catalog and Manual Covers. 160 pages in 4-colors. Page by page it's exactly the same catalog your NBB Dealer will have on his desk when you phone him to place an order. Send coupon today for your copy.

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(Circle No. 56 on Reader Inquiry Card)

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, JULY 2, 1946 AND JUNE 11, 1960 (74 STAT. 208) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF:

Office Management and American Business, published monthly at New York, N. Y. for Oct. 1, 1960.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Andrew Geyer-McAllister, Inc. (Corporate name), 212 Fifth Ave., New York 10, N. Y.; Editor, Robert M. Smith, 212 Fifth Ave., New York 10, N. Y.; Managing Editor, None; Business Manager, James E. Neary, Jr., 212 Fifth Ave., New York 10, N. Y.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

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3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required by the act of June 11, 1960 to be included in all statements regardless of frequency of issue.) 34,246.

Donald McAllister

Sworn to and subscribed before me this 22nd day of September, 1960.

Arthur M. Spence

(My commission expires March 30, 1961)
(SEAL)

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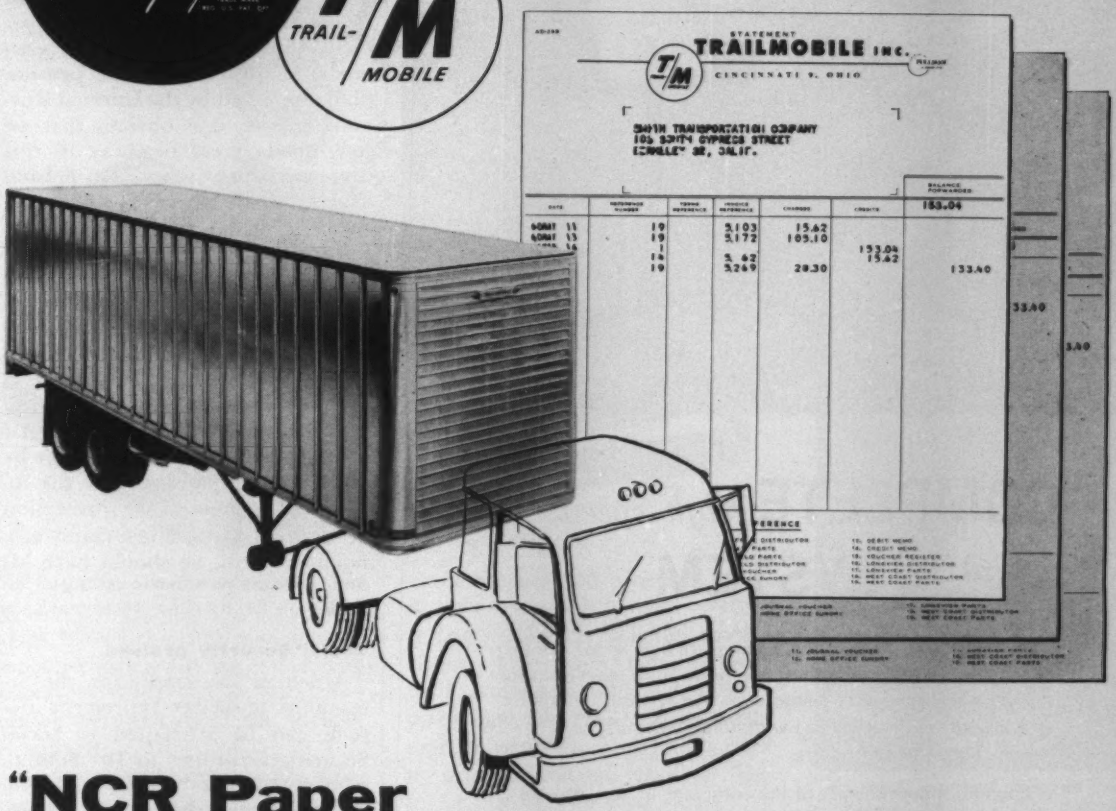

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(Circle No. 5 on Reader Inquiry Card)

Expand pension plans, Folsom urges conference

Former Secretary of Health, Education, and Welfare Marion B. Folsom recently called on employers to expand their pension plans to help retired workers maintain an adequate standard of living. Dr. Folsom delivered his speech at New York University's Pension Trust Conference.

"With 20 million persons covered under 50,000 private pension plans approved by the Internal Revenue Service, it is obvious that we have made great headway in this area over recent years," Dr. Folsom stated, but he warned, "Employers today, however, should continue to improve their pension plans, and those without such plans should consider inaugurating them."

Dr. Folsom, who is now a director of the Eastman Kodak Company, an organization that has earned a reputation for its progressive employee benefit programs, also urged employers to encourage savings by individual employees. "For the individual to obtain the protection he desires against life's major economic hazards, he should have his own plan of systematic savings," he said.

Social Security praised

Much of the credit for the acceptance of better retirement systems can be attributed to Social Security, according to Dr. Folsom, who noted that "the Old Age Insurance System has greatly stimulated the rapid expansion of supplementary private pension plans.

"The record of Congress in the past 25 years in maintaining the (Social Security) system on a sound basis has been good. While benefits have been increased, mainly to keep them in line with current wage levels, the tax schedule has also been increased to keep the system on a self-supporting basis.

"The Federal government should continue to maintain this system on the same basic principles as at present. As in previous years, careful review should be made periodically by a representative advisory council to insure that the system is kept up to date with changing economic conditions and that it is kept on a sound financial basis," Dr. Folsom cautioned.

Secretarial school graduate —stuffing envelopes!

Naturally, she doesn't like it. No good secretary, with all her acquired skills, likes such a dull, monotonous, repetitive task as folding and stuffing papers. And her regular work piles up on her desk until the mailing is finished.

It doesn't make sense to use high-priced people for a job that a machine can do better. There is such a machine —the Model 3300-FH, Folding and Inserting Machine, which works faster than a flock of girls, requires little space, *costs little,* can be used by anyone. And soon pays for itself in even a small office!

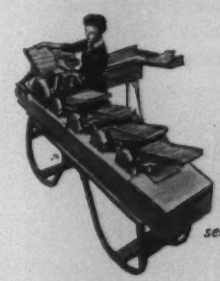
The 3300-FH is an uncomplicated combination folder and inserter. It can be set by you without a mechanic or tools. And it will fold and stuff into envelopes 500 letter-size sheets in eight minutes! It handles invoices, statements, leaflets, bulletins, stapled sheets – even your daily outgoing mail. Automatic feed and delivery saves time and effort. The inserter unit can be used by itself, or attached to any PB folding machine. The folder can also be used alone.

Get the 3300-FH to save time and money, to prevent disruption of office routine, to permit faster and better scheduled mailings. And boost secretaries' morale!

Call any PB office for details. Or send coupon for free illustrated booklet and case histories.

FREE: *Handy desk or wall chart of postal rates, with parcel post map and zone finder.*

This small, compact, low-cost combined folder and inserter makes mailings easy and fast, can be used by anyone.



Model 3100 has six optional stations, inserts up to six enclosures at speeds as high as 6,000 an hour. Can be used with a PB postage meter to stamp and seal stuffed envelopes.

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Made by the originator of the postage meter . . . 139 offices in the U. S. and Canada, with nationwide service coast to coast.

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Send free ☐ *illustrated booklet and "case studies" on PB Folding and Inserting Machines;* ☐ *Postal Rate Chart.*

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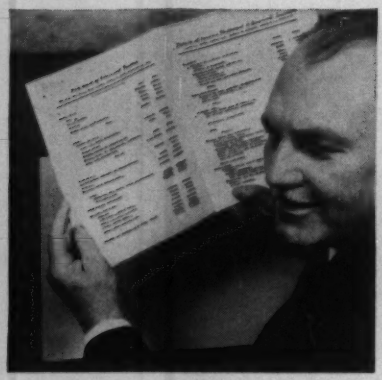
(Circle No. 61 on Reader Inquiry Card)

Which Hammermill Graphicopy Paper will cure your headache?

Graphicopy Papers, like aspirin tablets, come in conveniently small packages. You can prescribe any of 19 different Graphicopy grades for printing migraines. Which grade depends on the job and your printing equipment. Ask yourself the questions below and then call your nearby Hammermill supplier. Hammermill Paper Company, Erie, Pennsylvania.

Ashamed to sign some of the letters you send out? You won't be if you use crisp, bright Hammermill Bond.



Want to put your best foot forward? Your annual report makes a better impression on Hammermill Offset.

Does show-through sometimes mar a folder or booklet? Try Hammermill Opaque and save on mailing costs.

Annoyed when instruction manuals get dog-eared quickly? Tough, bulky Hammermill Cover will protect them.

Are your file cards limp and smudged with erasures? Put your new cards on stiff, strong Hammermill Index.

Raising the roof about delays? Business forms keep production moving. Whippet Bond moves fast on presses.

Have to get out 200 copies of a memo —rush? Finish the job quickly on lint-free Hammermill Mimeo-Bond.

Tired of hard-to-read bulletins, price changes, reports? Relax with non-curling Hammermill Duplicator.

Graphicopy labels are big and bold. Clean white cartons open easily, close snugly. Re-use them for filing, storage.

(Circle No. 39 on Reader Inquiry Card)

A SALUTE TO INTEGRITY

A FEW DAYS before the Soviet's stormy petrel, Premier Khrushchev, left these capitalistic shores, he appeared on an interview on a New York television station with David Susskind, the host of "Open End." The discussion was lengthy and belligerent; many thought it unwise, believing that Mr. Khrushchev did considerably better in presenting his viewpoint against Mr. Susskind, a television product, than he would have had he been interviewed by an older and more experienced newspaperman.

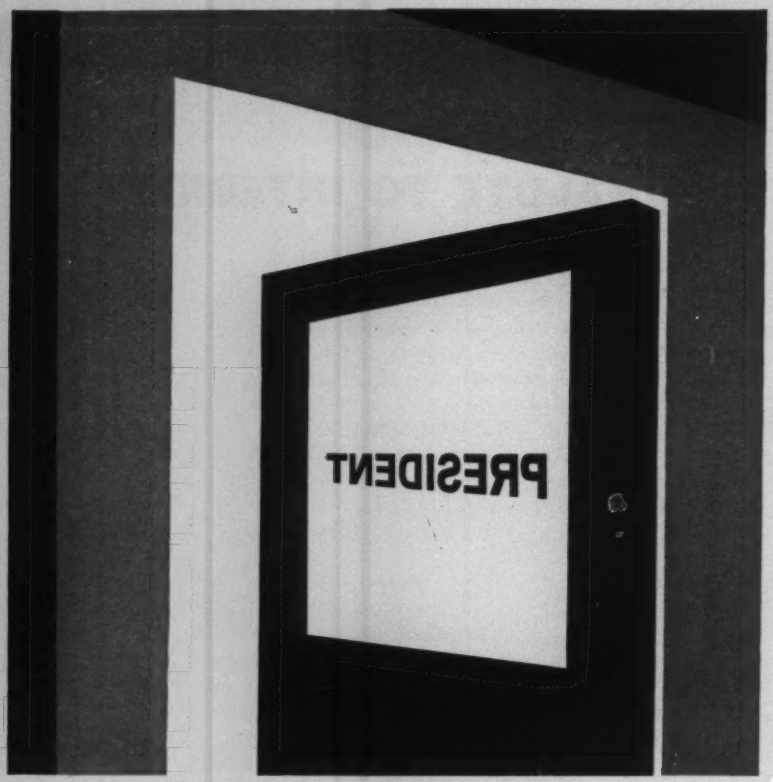
We have no comment on the quality of the program. Nor its wisdom, for that matter. A great many people and organizations were indignant because Mr. Khrushchev was invited to appear at all; they felt that such an invitation only gave him the opportunity to spread anti-U. S. propaganda.

Our interest is in the aftermath of the program. It was sponsored by three companies. One of the three immediately cancelled its contract after the Khrushchev appearance. Another—a manufacturer of office equipment—did not, and apparently has no intention of doing so. Minnesota Mining and Manufacturing Company, one of the program's three sponsors, has made no threats of cancellation or any other forms of censorship or reprisal.

We think, whatever the merits of the particular program may have been, that Minnesota Mining is to be congratulated on its clear conception of the appropriate role of the advertiser in a communications medium. This is particularly noteworthy when the medium is television, which has been more ruthlessly exploited by advertising interests than any other communications entity. Here was a program that was by its very nature controversial, that was bound to antagonize many people for a variety of reasons. One sponsor, apparently feeling that his advertising support gave him the right to dictate program content, acted on that belief and withdrew. Minnesota Mining, on the other hand, behaved as a responsible advertiser should have. It had bought air time on a well-known and closely followed program to advertise its products. It evidently does not believe that such a contract gives it any authority over the contents of the program, or the people interviewed on the program.

It's a healthy sign in a world where integrity is all too often sacrificed for dollars. And it's particularly healthy when it's remembered that Minnesota Mining is a manufacturer selling to a great many consumers, thousands of whom could presumably be prejudiced by Mr. Khrushchev's appearance, while the advertiser that withdrew is a brokerage house catering to a small, and presumably sophisticated, audience.

Mr. S. and Mr. K. in one of their rare, amiable moments.



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For the fast, accurate reports you need to establish firm management controls; for up-to-the-minute information in any number of vital areas such as order and sales analysis, inventory, job and labor costing – Keysort is the data processing system to use.

The reasons are many. No restrictive procedures; minimum training; remarkable economy; simplicity of installation and operation.

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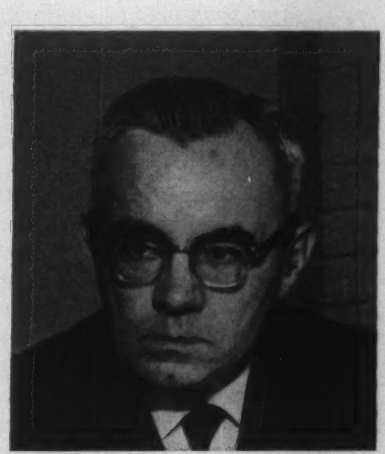
NEW CONCEPTS IN PRACTICAL OFFICE AUTOMATION

(Circle No. 70 on Reader Inquiry Card)

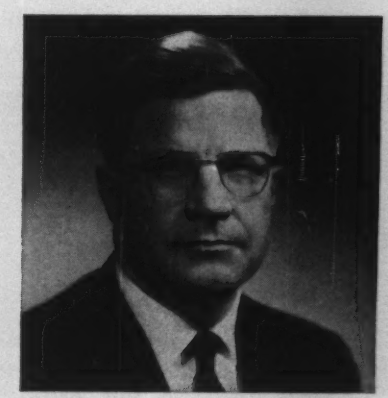
Vice President-Administration—That's the

TARGET FOR TOMORROW

Their organizations begin preparation of office managers for new role



L. E. Griffith



H. J. Wallis

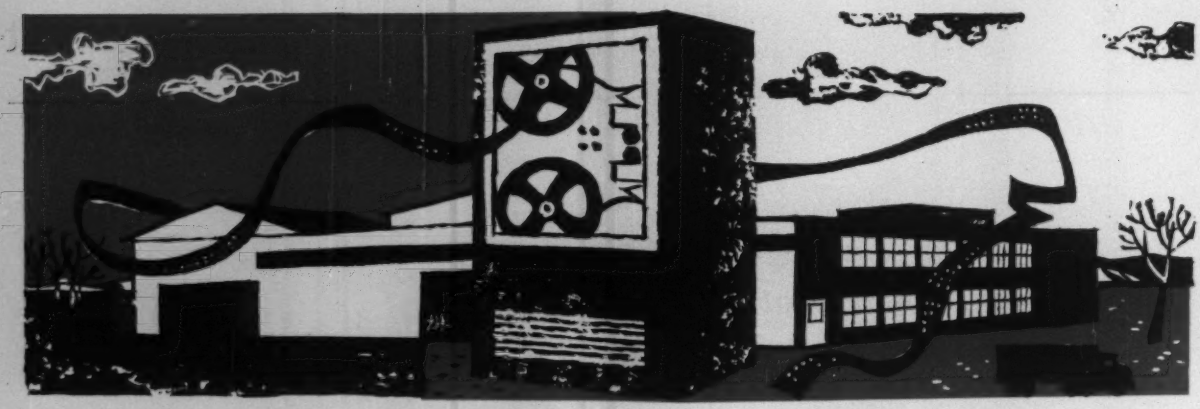
WHAT can today's office manager do to prepare himself—both professionally and psychologically—for the major new responsibilities that are opening to him?

The question is not academic. It is being asked by alert men and women across the country. They are aware that, in the rapidly changing context of business, great new opportunities are going to appear in the management function as it relates to paperwork, information processing, and communications. As office managers, they are on the ground floor of these new developments. The question is: just what role do they play, what path do they follow to ensure that they continue in control, that their place is not usurped by some other group. For as the importance of the data processing function grows, the rewards of commanding it increase. As the authority and prestige of a job increase, the competition among individuals of varying backgrounds and training to attain that job becomes intense.

If the main emphasis is to be on data processing facilities as such, for example, there would seem to be a possibility that the technicians, the men who know and work with the computers and the communications devices, might move into the driver's seat. Alternatively, with many companies installing their first electronic equipment within the financial departments, the controller or treasurer could fall heir to expanded powers and responsibilities.

Business is moving, in other words, into an area in which the dominant job, in terms of the non-production activities of the company, has yet to evolve, to take final shape and substance. A new type of management role is in the making—a role which will encompass and direct *all* the information and communications activities of the company as an integrated whole. The exact cast that role will take, and, most of all, the executive who will fill it, are the unanswered questions.

In this oncoming contest, the office manager has certain serious disadvantages. He has customarily



The machines aren't as important as the changes they bring

been thought of as part of middle management, rather than as part of top management, as has the controller or treasurer. As such, he suffers as an individual certain built-in disadvantages in reaching for this new position.

But this is a psychological handicap only. If he can overcome this first hindrance, he has certain very real advantages on his side.

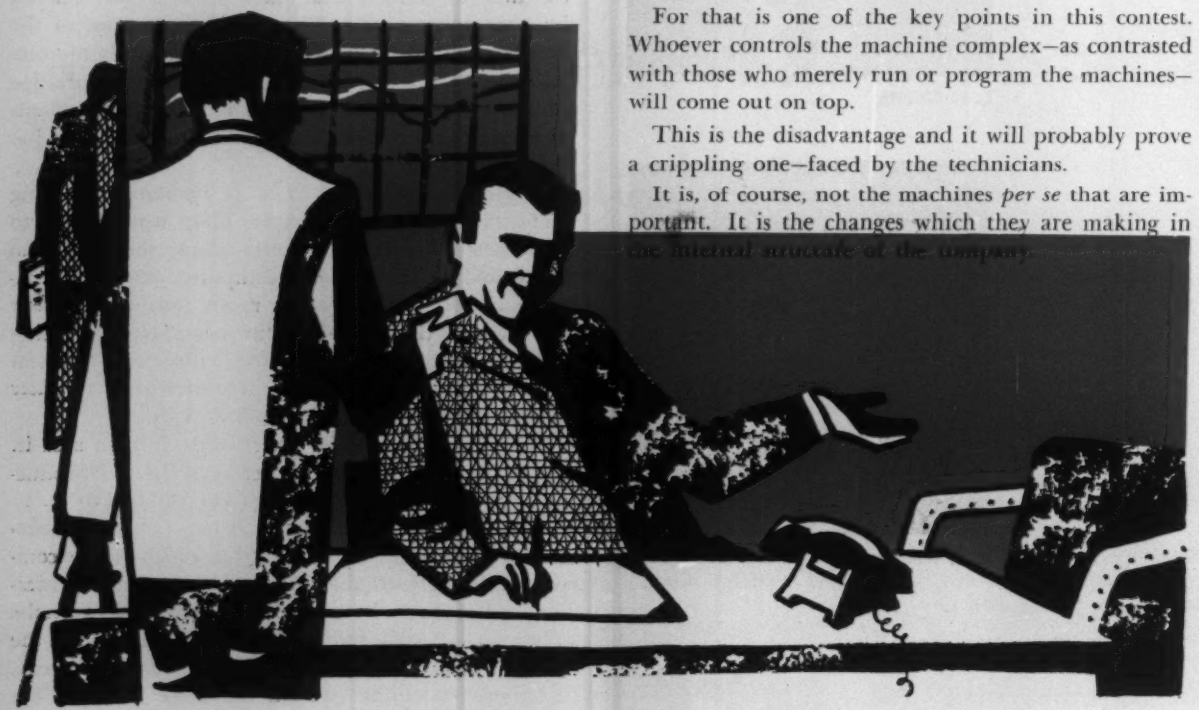
Consider his two most obvious rivals in the coming contest for power—the technically-oriented specialist and the financial officer.

The financial man has the most serious initial advantage over the man in charge of office functions—simply because he is already in a strong position in terms of the company hierarchy. He has been either a part of, or close to, the top management group for so long that he is on easy terms with all corporate officials. Often, the elaborate new machinery installed in offices is used by his department first, so that he has a time lead toward gaining the increased authority and power the machines confer.

For that is one of the key points in this contest. Whoever controls the machine complex—as contrasted with those who merely run or program the machines—will come out on top.

This is the disadvantage and it will probably prove a crippling one—faced by the technicians.

It is, of course, not the machines *per se* that are important. It is the changes which they are making in the internal structure of the company.



Production, sales—every facet of the company's activities can be fed by the same data stream.

Army of clerical workers in scattered departments can be cut

For electronic data processing, by its very nature, makes most sense when it is used in a centralized office, digesting streams of raw information fed in by modern communications media. The central point co-ordinates the data into meaningful form for intelligent operating decisions. Orders based on those decisions are then fed out to the company's operating facilities in the field.

Since the handling of information, its manipulation, and recreation into new forms, is all done at one point, the great army of clerical workers in scattered departments at scattered locations can be radically cut. And so, too, can the responsibilities of the middle management levels and even the upper management levels at those locations. How much discretion is left to the production manager when production schedules, required raw materials, and desired output levels are all determined by machine, and supplied to the line as operating orders? How many workers are needed for sales analysis and forecast when central machines can carry out all these projecting operations far more efficiently than human workers ever could?

Processing and communications interdependent

Data processing and communications, then—these are the two great areas of importance. And they go together—one is dependent on the other, at least for any company doing business in a number of locations.

They are service functions, but they are gaining the ascendency over some primary functions because they can determine how well the primary functions are carried through. These service functions form the brain and the nerve network of the company—the directing mechanisms which make it possible for the company to do its work.

And it is these areas which today's office manager may—if he is smart enough and aggressive enough and knowledgable enough—stake out as his preserve. He's not going to win this expanded authority by default. But he starts with many real advantages if he's determined to gain authority over the entire information function.

The feeling among many concerned with this problem is that today's office manager may prove to be his own worst enemy in moving up to meet the demands of this new position. At a recent forum sponsored by the Office Executives Association of New York, and devoted to the topic, "What is the Future of the Office Manager?", Robert Slaughter, vice president, McGraw-Hill Publishing Company, said:

"Office managers have long been a timid, shy, apologetic group—perhaps because of clerical backgrounds, perhaps because of the importance attached to selling and the company's products, perhaps because of their own limited perspective on the contributions they can make to office administration."

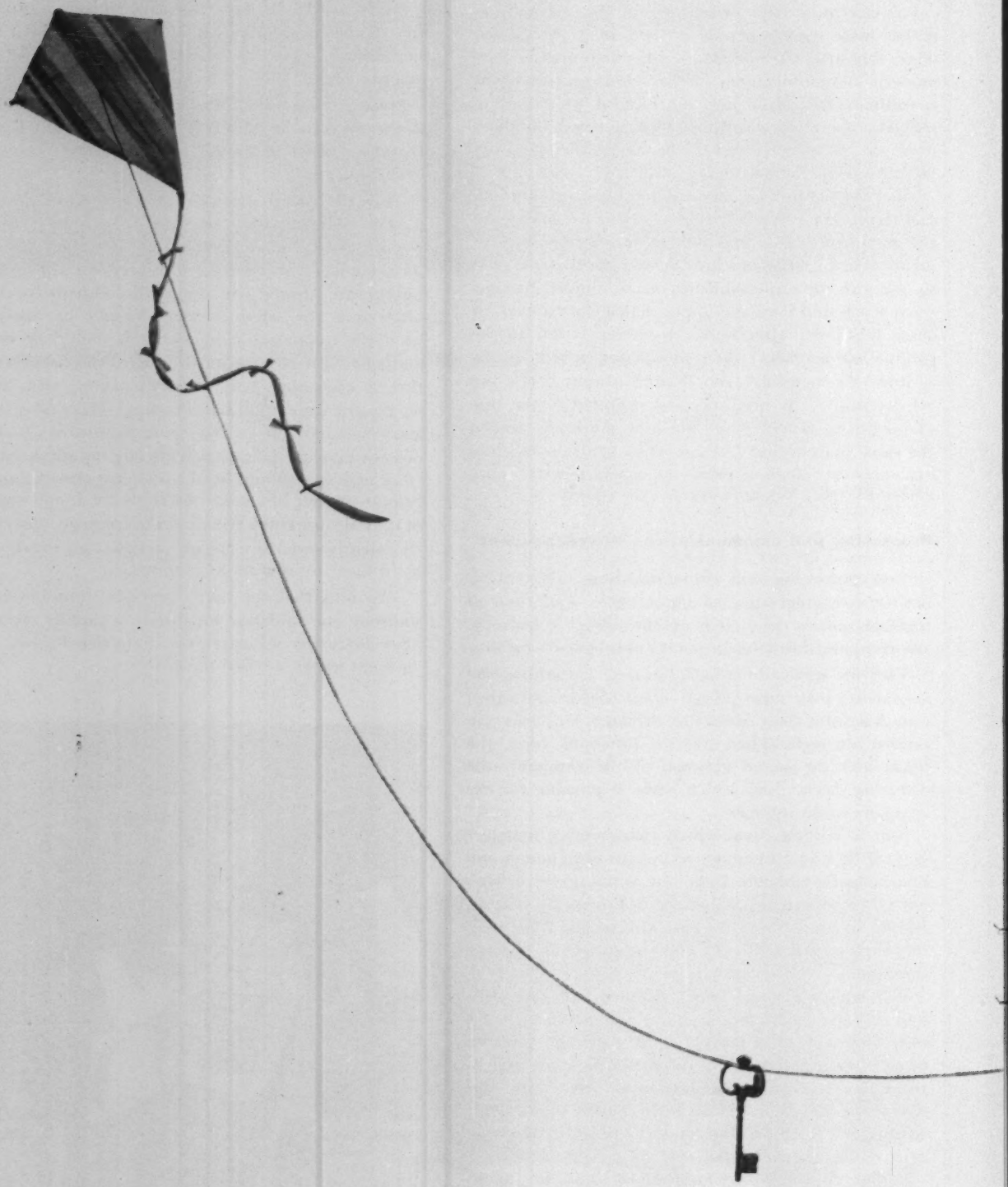
Harsh words? Perhaps. But they embody a point of view which is common in business, and which only aggressive and positive action by office administrators can overcome.

Precisely that recommendation was made by another of the speakers at the OEA meeting, Edward Riddle, Director, Office Administration, Colgate - Palmolive Company.

"The title—office manager, office executive, administrative manager—isn't too important," he told the group. "In a small company of less than 250, the office manager is already a 'vice president' in terms of importance. But it's in the small company—or small office—that the office manager should be analyzing what the company's doing, what it should be doing, and what it needs. In medium sized offices specialization is beginning, with decision-making areas being segregated from information areas. Here office managers will have to become more aggressive. In large offices where specialization is already far advanced, the office manager should head up all paperwork production areas—but he's got to be ready for it and capable of it. He must know every facet of company operations thoroughly—even if it means he has to go to school to learn how to program a computer."

The idea that the office manager should wait for someone else to define his role in a rapidly changing office hierarchy was attacked. Kendrick Porter, management writer, advised the group:

Even research activities can draw from common stream.



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"He must use the brains God gave him —"

"If the office manager takes on new responsibilities as they develop, and uses the brains God gave him, the president and vice president will take what he presents them with. If he knows his job thoroughly, he can make responsible decisions, presenting them to top management for a routine OK — or as an accomplished fact."

Bruce Recker, Program Director, Administrative Services Divisions, American Management Association, contradicted the others in pointing out his reasons for believing terminology is important.

"The future of the office *executive* is bright; the future of the office manager not nearly so bright," he said in stressing the fact that the American Management Association had recently changed the name of its Office Management Division to Administrative Services Division. "The advent of a whole new host of skills and requirements is robbing the office manager of his scope and authority. Those who'll move ahead will be those who do not contribute traditional concepts, but those able to master new skills and abilities.

Administrator replaces manager

"The office manager has to move out into entirely new areas if he's to become an administrative manager. And the administrative manager is replacing the traditional office manager."

So the consensus certainly seems to be that a vacuum has been created by the changes that have occurred in the office, and it's a vacuum that will have to filled. How does the current office manager insure that he will be the man selected to fill it in his company?

One good way, of course, is to realize just what's required in the new role, and last month the American Management Association, through its Administrative Services Division, took steps to insure that all the aspects of the new role were fully explored. A special conference was held October 17-19 in New York, to investigate all the phases and implications of the changes that have occurred in administrative management.

Purpose of the special conference —the first to be held under the division's new title—was spelled out in this way:

"For the first time in the history of modern management you will get a comprehensive briefing on the advanced new concepts of the administrative function — those that are bringing top pay-offs to forward looking companies. . . ."

Lionel E. Griffith, International Latex Corp., Dover, Del., one of the opening day speakers, cited some of the reasons for the changing concept of the administrative function —a concept which, in his words, is making the administrator a "top management official."

First, dismissing the old theory that paperwork is a necessary evil, he said that this belief stemmed from a misunderstanding of the nature of production.

"Information used actively and intelligently will usually result in a successful conclusion to the business in hand," he declared. "Paperwork—*or its equivalent*—properly developed and controlled is, thus, no more of an evil than any other aspect of a business.

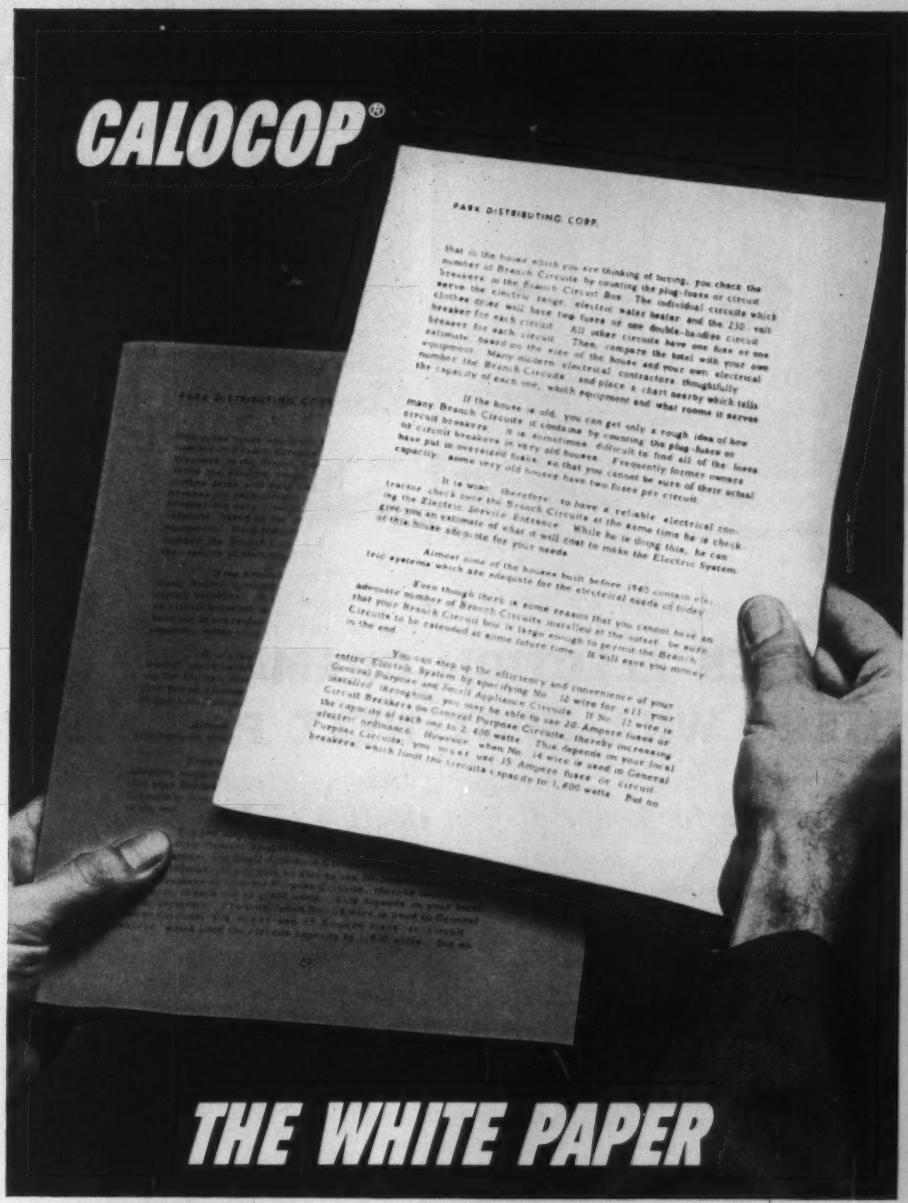
"In the physical and mechanistic areas of production it is usual to think of production in terms of the things produced and to overlook the fact that the production process, if adequately designed, accomplishes two things:

"A. The creation of the product.

"B. The creation of data relating to the product which will, if properly used, provide information on labor costs, the cost of the product, the time required to produce it, and a host of other matters which are essential to the profitable selling of the product itself."

Thus, information is an essential part of the product itself and contributes to its value, if properly gathered and used, according to Mr. Griffiths. But, to be effective, "data production should be an integral part of the production operation and should not be, as it frequently is, an interruption in the production flow.

"To be effective and sound, the method by which data are introduced into, and taken out of the production flow must be in harmony with the flow itself," he declared. (*To be continued*)



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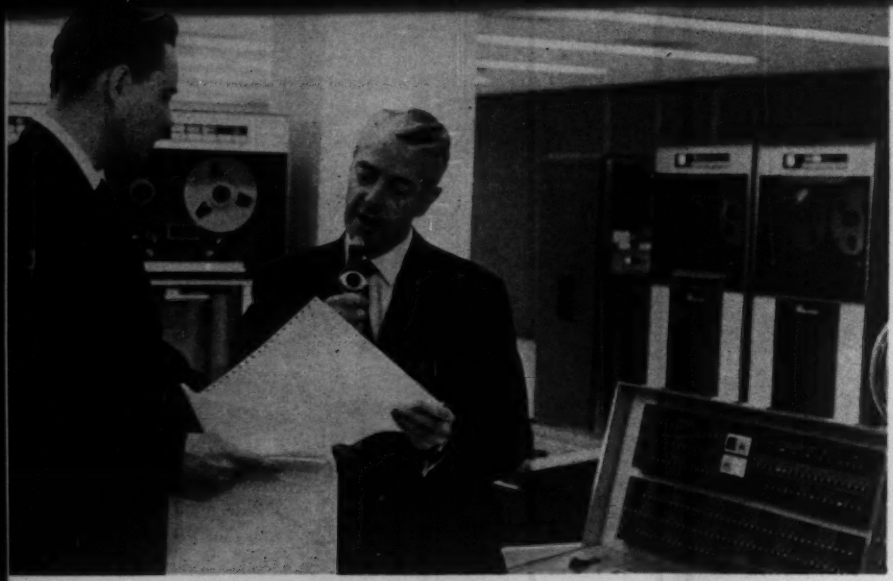


Howard K. Smith of CBS, and IBM 7090 will team up for voting analysis.

BEHIND-THE-SCENES ELECTION DRAMA: HOW COMPUTERS WILL SPOT NEXT PRESIDENT

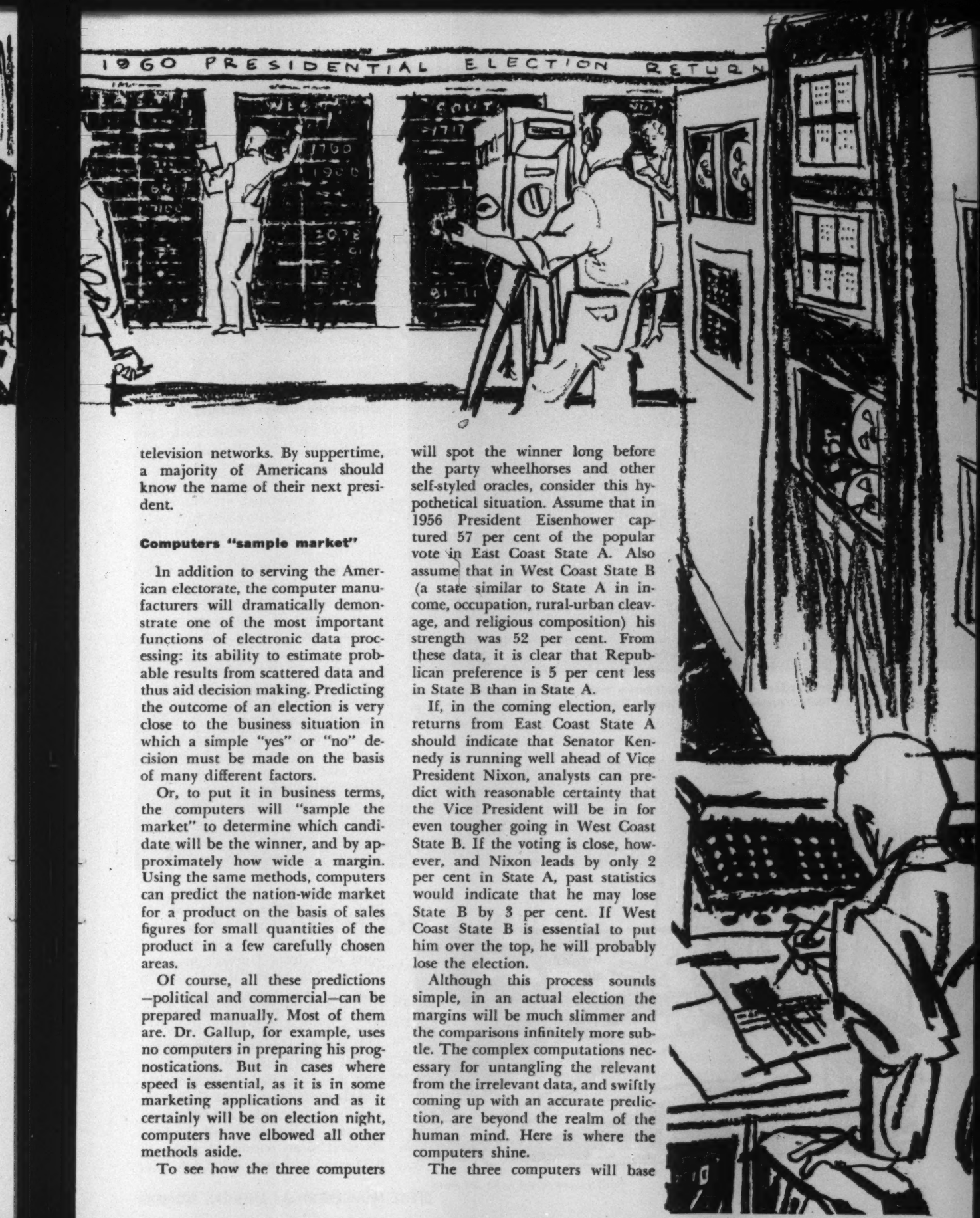
Univac, IBM, RCA to compete for honor of first election night forecast

By JOHN ALLAN RHEA

WHILE THE center arena in the current presidential campaign is occupied by the Vice President and the junior senator from Massachusetts, another contest is taking place in the wings. The participants are three electronic computers—a Remington Rand Univac I, an IBM 7090, and an RCA 501. The victory these computers seek is the first and most accurate forecast of the 1960 election results.

To achieve this goal, large staffs are being trained to operate the computers with split-second accuracy on election night, and data from previous campaigns are being fed into the machines' memory units. Even before the polls close on the evening of Nov. 8, teams of computer specialists will go into action to prepare forecasts that will be broadcast over the three major

RCA will be ready for its first election prognostications by Nov. 8, when Richard Harkness of NBC and 501 computer will be on camera from Wall Street service center.



television networks. By suppertime, a majority of Americans should know the name of their next president.

Computers "sample market"

In addition to serving the American electorate, the computer manufacturers will dramatically demonstrate one of the most important functions of electronic data processing: its ability to estimate probable results from scattered data and thus aid decision making. Predicting the outcome of an election is very close to the business situation in which a simple "yes" or "no" decision must be made on the basis of many different factors.

Or, to put it in business terms, the computers will "sample the market" to determine which candidate will be the winner, and by approximately how wide a margin. Using the same methods, computers can predict the nation-wide market for a product on the basis of sales figures for small quantities of the product in a few carefully chosen areas.

Of course, all these predictions —political and commercial—can be prepared manually. Most of them are. Dr. Gallup, for example, uses no computers in preparing his prognostications. But in cases where speed is essential, as it is in some marketing applications and as it certainly will be on election night, computers have elbowed all other methods aside.

To see how the three computers will spot the winner long before the party wheelhorses and other self-styled oracles, consider this hypothetical situation. Assume that in 1956 President Eisenhower captured 57 per cent of the popular vote in East Coast State A. Also assume that in West Coast State B (a state similar to State A in income, occupation, rural-urban cleavage, and religious composition) his strength was 52 per cent. From these data, it is clear that Republican preference is 5 per cent less in State B than in State A.

If, in the coming election, early returns from East Coast State A should indicate that Senator Kennedy is running well ahead of Vice President Nixon, analysts can predict with reasonable certainty that the Vice President will be in for even tougher going in West Coast State B. If the voting is close, however, and Nixon leads by only 2 per cent in State A, past statistics would indicate that he may lose State B by 3 per cent. If West Coast State B is essential to put him over the top, he will probably lose the election.

Although this process sounds simple, in an actual election the margins will be much slimmer and the comparisons infinitely more subtle. The complex computations necessary for untangling the relevant from the irrelevant data, and swiftly coming up with an accurate prediction, are beyond the realm of the human mind. Here is where the computers shine.

The three computers will base

Rem Rand pioneered electronic election forecasting in 1952

ABC news commentator Don Goddard (seated) gets a lesson in electronic data processing from Dause L. Bibby, president of Remington Rand Division, Sperry Rand Corp.

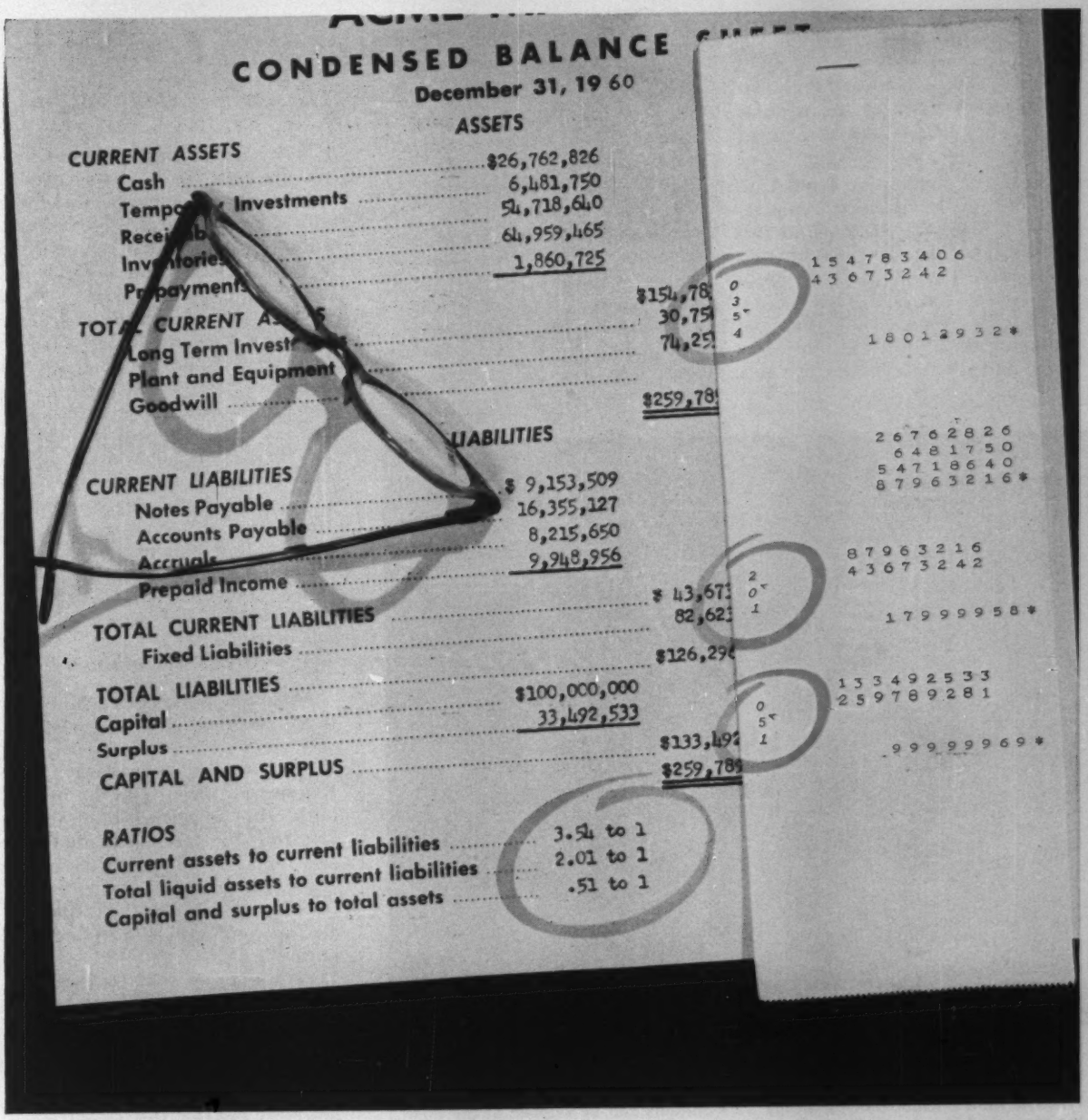
their forecasts on analyses of returns from carefully selected voting districts in the eastern states, which come in first because they are in the earliest time zone. Thus, the validity of the predictions will depend on three factors: the measure to which the early returns represent the country as a whole, the accuracy of the computers in processing this information, and the skill of the analysts in evaluating it.

Computer obeys blindly

It was in this third area that Remington Rand Univac muffed its chance to make a spectacular prediction in 1952, the first election in which a computer was employed. Only two hours after the first polls closed, and with just 3,400,000 votes in from scattered eastern states, Univac (Universal Automatic Computer) forecast that General Eisenhower would receive 438 electoral votes against 93 for Governor Stevenson. Since the election was expected to be close, Remington Rand Univac executives looked at this landslide prediction with incredulity. They agreed to change the "national trend factor" from the 40 per cent shift to the Republicans computed by Univac to 4 per cent, and asked the machine to recompute. Univac blindly followed these instructions and obediently printed out a "realistic" prediction that was broadcast.

Shortly afterward, however, new information verified Univac's original 40 per cent trend factor. The final result of the election was 442 electoral votes for Eisenhower and 89 for Stevenson, just four electoral votes away from Univac's first prediction. The moral of this story is clear for all computer users: Believe in the machine, because it does only what you tell it to do.

A sadder but wiser Remington Rand group followed this advice with gratifying success in the 1956 presidential election. At 7:15 p.m. (EST), with only 293,407 votes counted, Univac predicted the final electoral totals within 13 votes. At 9:37 p.m., with only 3,773,345 votes



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(Circle No. 64 on Reader Inquiry Card)

Kennedy or Nixon? Computers will be first to know

counted, Univac predicted President Eisenhower's share of the popular vote within 1.1 per cent of the final result.

This year Remington Rand Univac has made extensive preparations to meet the challenge of two newcomers in the quadrenniel competition to predict the presidential election. Since last spring, when the company began the groundwork for its election night program, some $500,000 has been spent on election data programming. A team of one hundred researchers, programmers, and computer experts will be on hand when Univac's predictions are aired over the ABC television network. These predictions will take the following five forms: number of states that will be carried by each candidate, total electoral vote for each candidate, total popular vote for each candidate, mathematical odds favoring the leading candidate, and outcomes of the Senate and House races.

The physical process of handling election data has been considerably refined since Remington Rand first got into the predicting business. Incoming presidential returns from key voting areas will be teletyped into the company's service center on Park Avenue South. There, the returns will be checked by analysts and entered into the computer on magnetic tape. When enough data have been accumulated for a prediction, a decision will be made to halt the input, and within 20 minutes the computer will print out its version of the election results. Input can then be resumed for further computations. Univac's predictions, meanwhile, will be put on the air immediately by ABC newsmen at the service center.

IBM will join competition

As would be expected, International Business Machines is not willing to let the prestige of picking a presidential winner go to Remington Rand Univac by default. IBM is getting ready for its first full-scale election night coverage for its customer, CBS News. Using voting records for every national election since 1928 (the last election in which a Roman Catholic, Governor Alfred E. Smith of New York, was a candidate for the presidency), IBM believes it will be able to prepare an accurate prediction after receiving the first 1 per cent of the election returns. (If 66 million Americans go to the polls, as some observers predict, this would mean basing the election outcome on the first 660,000 votes.)

Stored in the 7090 computer are the results of a year of preliminary research by IBM mathematicians, supported by political scientists from major universities in 16 states. This information covers more than 500 key precincts and 75 marginal congressional districts. From these 500 precincts, which report early on election night, CBS reporters will telephone results directly to the IBM Datacenter in midtown Manhattan.

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TV networks will carry computers' election predictions

correspondent Howard K. Smith will use this information to broadcast answers to such questions as "How solid is the South for the Democrats?" "Is Nixon winning the traditionally strong Republican areas that are indispensable to him?" "Are voters dividing on religious lines?" and "Are the farm states breaking away from the Republicans?" These answers will be available instantly, and there will be no need to halt input while the computer is answering questions.

This information will also be transmitted instantaneously to CBS election headquarters, some two miles away, where Edward R. Murrow, Walter Cronkite, and other members of the election team will be reporting. This will be done via a special "data link" that enables the giant 7090 to "talk" over a telephone line to a high-speed printer at CBS News studio 65.

Another IBM computer — a RAMAC (Random Access Method of Accounting) 305—will be used at CBS election headquarters to keep a running tabulation of the voting. As reports come in to the studio from wire service teletypes and the network's own telephone correspondents, coded cards will be punched on card punching machines. These cards will then be rushed by conveyor belt within eight seconds to the RAMAC, which will search its memory, check the information against previous data, print reports, and flash the latest national voting results on a lightboard for the television audience. The RAMAC, according to IBM, can process each incoming item of information within three seconds.

The third entrant in the "electronic election sweepstakes" is Radio Corporation of America, which will prepare forecasts for its sibling NBC radio-TV network. Assisting in this project, which has been termed "Operation Ballot," will be C-E-I-R, the largest independent computer services firm in the country. Predictions will include the winner of the presidential race, electoral vote split, total popular vote, and popular vote split. The computer will not forecast state and local contests.

50 key precincts analyzed

Of the three computer manufacturers, RCA is the only one with no election experience, since it entered the data processing industry less than two years ago. Yet, the company will be trying for a home run the first time at bat, and hopes to have some indication of how the voting is going when the Chet Huntley-David Brinkley newscast goes on the air at 6:45 p.m. (EST).

Under the RCA system, national election returns will be collected at NBC headquarters, Studio 8H in Rockefeller Center. Within 38 seconds after receipt of returns in the form of teletype copy, they will be transmitted to RCA's service center at 45 Wall St., and processed by the 501 computer. Barometric returns from 50 early-reporting precincts will be telephoned directly

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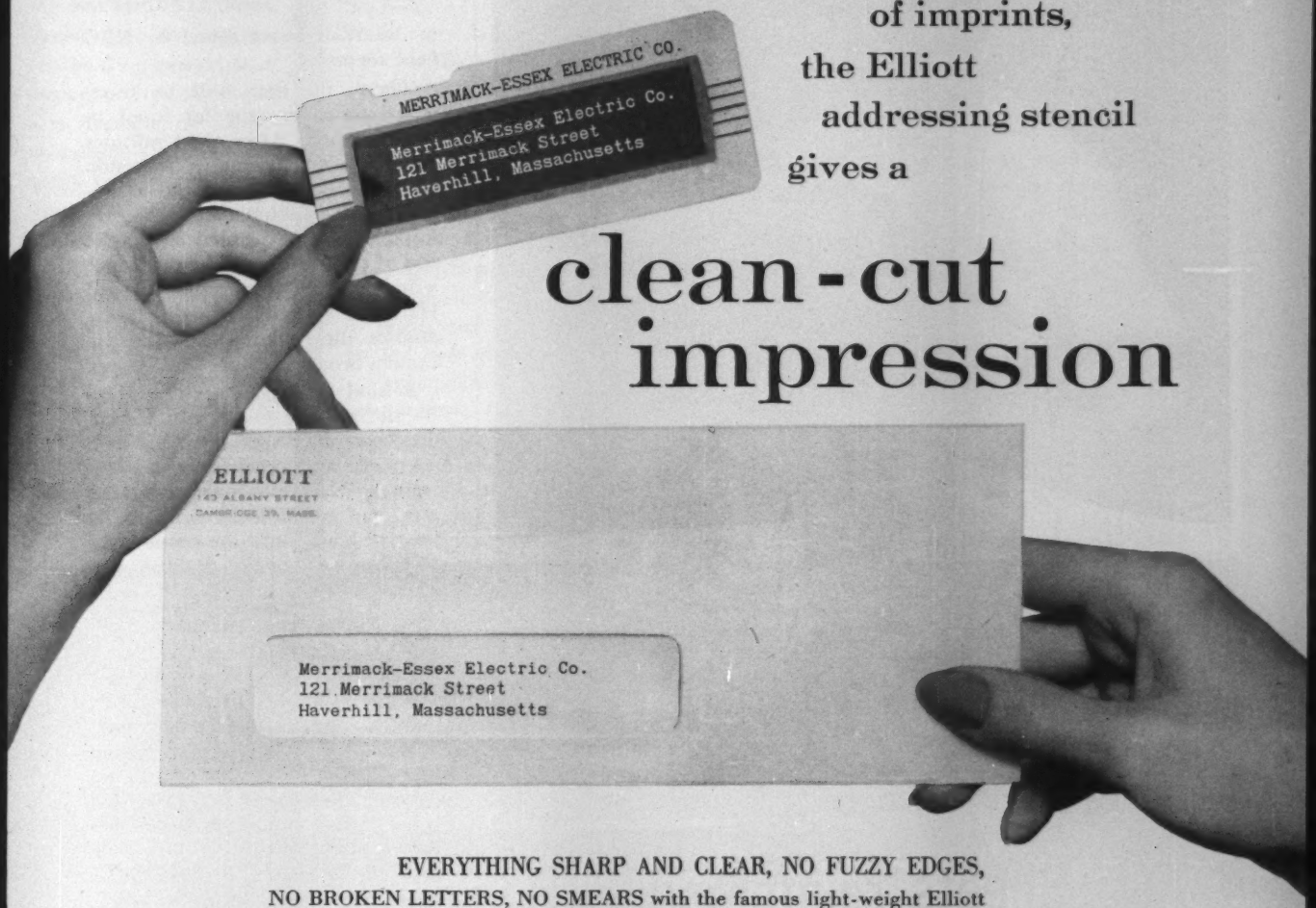

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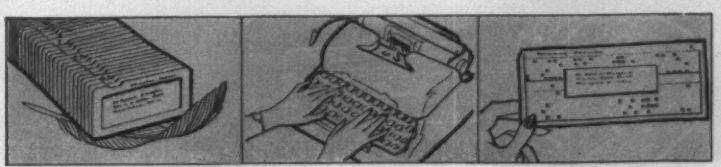

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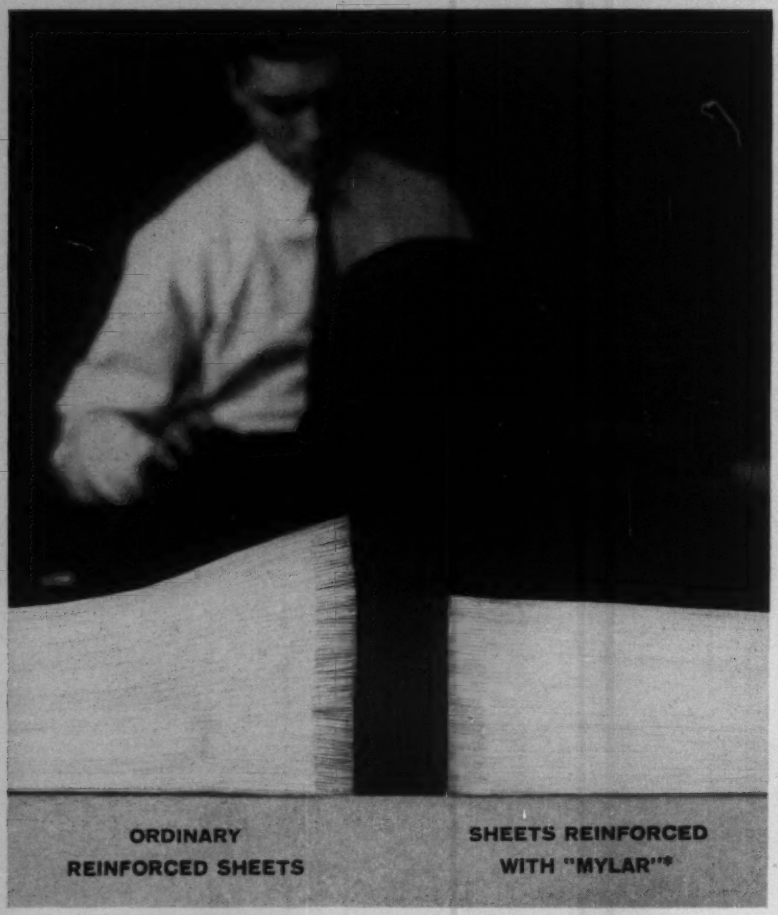

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Voting trends projected

to the Wall Street center by NBC field reporters.

There, the data will be transferred to paper tape for input to the computer. After eight minutes of input, the computer will stop accepting data and go into a two-minute "compute" cycle. Election forecasts will be printed out at the end of this cycle, and the procedure will begin all over again. Richard Harkness of NBC News will announce these forecasts during on-camera broadcasts from Wall Street.

Behind the scenes at "Operation Ballot" will be more than a hundred computer specialists, political scientists, and other experts. This team will go into operation at 2 p.m. and continue its work for at least 12 hours until the presidential race has been finally decided.

"Dewey Defeats Truman"

Preliminary work consisted of a depth study of American voting habits dating back to the 1948 presidential election. These findings were transformed into a mathematical model used by RCA and C-E-I-R programmers to write more than 20 programs for the 501. Data used in the model include demographic analyses of each state's population by geographical areas, degree of urbanization, occupations, income levels, age, religious affiliations, and other categories. These facts, stored in the computer's core memory, will form the basis for projections of the popular and electoral votes.

All this electronic wizardry will be expensive—the cost may reach several million dollars—for the computer manufacturers and networks. But these staggering costs can be justified by a few positive results: greater public awareness of the wide scope of electronic data processing and the excellent practice that computer specialists will get in operating their machinery under "stress" conditions.

With all these preparations, it would be chastening indeed if the computers were to repeat the blunder committed by the Chicago *Tribune* in 1948, when its first-edition banner headlines proclaimed: "Dewey Defeats Truman."

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THE CASE FOR SYSTEMS ANALYSIS

Four objectives are simplicity, speed, economy, accuracy

By RAYMOND DREYFACK
Director of Tabulating Systems
Faberge Perfumes, New York

REMEMBER the last time you bought a suit? Remember how, after you decided that the gray tweed was what you really wanted, another person stepped into the picture? This little man, with a length of measuring tape draped over his shoulder and a piece of tailoring chalk in his hand, looked you over appraisingly, gave the suit a tug here and a pull there, and then proceeded to measure sleeves, waist and trousers, and mark up the garment like an artist on a spree.

This gentleman, in case you're wondering, is an experienced systems analyst. He first looked you over and carefully studied the problems presented by your frame, noting exceptions and irregularities. Next, he decided just what processing would be needed to come up with a good finished product. He then went on to chart his findings and issue a manual of instructions (in the form of chalk marks) to the tailors—or machine operators—whose job it is to put his recommendations into effect. When this was done he passed to the next customer to consider another job project in search of a systems survey.

These are the steps in systems analysis: investigation of the problem, planning the best solution, writing directions for others to follow. Any business—in fact, any organized activity at all—needs a systems person to perform these vital functions. Without systems planning, the seeds sown would be confusion, the harvest, chaos. Thus, systems planning has four objectives: simplicity, speed, economy, and accuracy.

Let's analyze Step 13 of the operating manual of the XYZ Manhole Cover Manufacturing Company. It reads as follows: "13. Arrange cards into numerical sequence according to account number classification."

This is a reasonable instruction, but quite a mouthful. The average person would probably have to read the sentence two or three times in order to digest its meaning. Perhaps the person who wrote the instruction was unconsciously trying to strut his vocabulary before subordinates—a common human failing.

How much easier it would have been to state the step like this: "13. Sort cards into account number order." This would have to be read only once. Communication would be immediate, not confused by polysyllabic double talk.

A major responsibility of management is to translate thoughts to a clerical and operating level. The method of translation will influence—perhaps more strongly than any other single factor—the method used in taking the action desired. Efficient communication often spells the difference between understanding and confusion. Simplicity of expression is one of the prime objectives of the systems analyst.

There is one best way

Of equal importance is simplicity of procedure. There are innumerable ways to solve a given problem. *There is only one best way.* Since simplicity and efficiency are longstanding sidekicks, the best way is usually the least complex. Before a decision is reached concerning the most adaptable solution to a problem, it might be a good idea to test it against this check list.

1. Is all the information on the document or report useful and necessary?

2. Can specific steps of the procedure be eliminated, shortened, or combined with other steps?

3. Can steps be arranged in such a way that a single person can stay with the job as long as possible before having to turn it over to other people? In other words, have related tasks been combined to the fullest extent?

4. Are specific parts of the operation being performed by people specially geared for the tasks involved? Are clerks doing clerical work, machine operators operating machines?

5. Are tasks being assigned according to levels of intelligence

Effective business systems break the bottlenecks of confusion, waste, time lags.

and ability equal to the work involved? Is a slow moving individual struggling with a complicated job? Is a bright, creative person being wasted on dull routine?

6. Is a step or procedure in effect simply because "that's the way it was always done?"

7. Has a determination been made that information produced isn't available more simply or economically from another source?

8. Can the sequence of steps be changed in any way that might increase the speed or ease of processing?

9. Can information on several reports be combined to eliminate extra reports?

10. Is coding used to advantage? Can codes be shortened or simplified?

11. Are batches small enough for easy handling and balancing?

12. Has every possible effort been made to reduce peak load situations by redistribution and rescheduling?

13. If overtime is a necessary evil, has slack time of unaffected employees been utilized to help relieve the situation and relax pressures?

14. Are intra-departmental traffic and phone calls under adequate control? How much of this can be classified as business, and how much as social activity?

15. Is the office laid out with good access to files that are used extensively? Are enough cubbyholes, storage bins, and cabinets available so that reports and other documents may be kept in their designated places with a minimum of effort?

16. Are clean-up tasks properly supervised so that confusion isn't created by things lying about?

17. Is source material flowing into the department according to a pre-planned schedule?

18. Are written and verbal instructions simple and clear?

19. Is anything being done in an awkward way because of the lack of a proper tool or processing aid?

20. Do improper working conditions, such as too-harsh light, noise, or too-warm temperature cause distraction or other work deterrents?

Simplicity is closely interwoven with speed, economy, and accuracy. Although the above list is obviously not complete, the questions may stimulate thought and suggest additional factors specifically related to a particular problem.

"Systems analyst" at work: First he studies problem, then notes exceptions, decides what processing is needed, charts his findings, and issues instructions.

Of equal importance is speed. The most comprehensive report is of little value if received too late. A stock status summary showing items in short supply should indicate to the purchasing agent what is needed today, not two weeks ago. With service as the keynote of modern industry, speed has become the keynote of service. The day of flying pencils and hectic entries is passing. In the well planned office, fast results are a by-product of the normal operation. Speed should be systems-geared rather than pressure-geared.

Planning and evaluation—followed by revision where necessary—imply the presence of increased speed as an almost inevitable by-product of the systems function. Can steps be combined, eliminated, or simplified? Can coding be abbreviated? Is the fastest and most feasible equipment being used? The best method of balancing? Would the labor and time saved by using more sophisticated equipment warrant the cost of the machines? Are reports being duplicated? Is the priority and usage of reports being reviewed periodically?

These questions, and a hundred more, must be carefully considered on a periodic basis. Methods and machines, planning and evaluation, keeping abreast of new developments, new gimmicks and shortcuts—all will contribute in some part to one of the major objectives of any office operation: getting the information to management in time to do the most good; getting the documents, invoices, checks, and statements to customers and vendors with a minimum lag in processing.

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Magnetic ink character reading devices, optical scanners promise revolution in input problems and time lag.....July

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Middle and top management levels will be affected by automation.....September

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Study systems cost

analyst must be made. "Before and after" statistics should be drawn in detail and analyzed carefully. Cost factors must be recorded and compared for alternate systems. The following check list may touch off further thought on specific problems.

1. What are payroll costs under the old system as compared with the new or proposed set-up? (Don't forget fringe benefits.)

2. How will the cost of new equipment compare to the cost of equipment being abandoned? (Don't forget to include possible recovery costs)

3. What are space requirements and costs of the new system as compared to the old one?

4. How do the costs of accessory items and tools compare for both systems?

5. How do the costs of forms, stationery, and printing compare for both systems?

6. Are savings in other departments or areas of the company possible as a result of the new system?

7. What, if any, is the value to be placed on managerial or executive time saved as a result of the new system?

8. What monetary gain can be expected due to increased accuracy or speed? For example, will better service, produced as a result of streamlining procedures, bring in new business? Will plant production costs be reduced?

9. What will be the training expense under the new system as compared to the old?

10. Will savings be incurred as a result of reduced overtime burden?

11. How much will the transition from the old to the new system cost? (Include dual processing, installation costs, added wiring, and obsolescence of usable equipment.)

12. Is it possible to save money by farming out work to service bureaus?

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mediately suspect. We all make mistakes. Those of us with reasonable intelligence learn by our mistakes. Mistakes, properly observed and considered, help us to prevent their future repetition.

This point, from a systems planning viewpoint, is a primary function—that of providing controls and safeguards against error. Potential trouble spots can be anticipated in advance. Numerous tricks and devices have been designed to aid the systems analyst in this area.

First, there is the auditing questionnaire. Its purpose is to examine an operation under a high-power magnifying lens, and provide in advance a series of test points, geared to disclose any possible loophole of error or fraud. In addition, test runs and so-called pilot operations may also help uncover loopholes before they can develop into pitfalls. Write-ups and flow charts outlining similar operations in other organizations also serve as checking and comparison media. Then too, there is the wealth of literature available in management publications, which is designed to improve efficiency and assist in the establishment of stronger operating and management controls.

The need for accuracy cannot be too strongly stressed. It is obvious that if information is misleading, action taken on the information will be incorrect. If the amount of an invoice is in error and a customer is overcharged, ill will results; if he is under-charged, potential profits are lost.

Accuracy and efficiency build confidence and prestige. Inaccuracy undermines. It is the prime responsibility of the systems analyst to provide tight controls at the outset of an operation, maintain a check network at strategic points along the way, and test the controls constantly. Here are some loophole plugging aids that may ensure maximum accuracy and control.

1. Are control totals established for all documents that come into the department for processing?

2. Are all available verification features—mechanized or manual—being used?

3. Are pyramiding controls maintained where feasible? In a sales application, for example, a daily control would be taken for billing. This would tie in on a cumulative basis with weekly, monthly, and annual controls. Sales reports, in turn, would then tie into the pre-established totals.

4. Has each step of the procedure been adequately tested? It is all too easy to slough over unobtrusive details.

5. Is a responsible supervisor or control clerk charged with the duty of vouchsafing the accuracy of work produced?

6. Are inter-departmental controls properly established and maintained? Is liaison smooth and uncomplicated? Do personal problems or jealousies interfere with effective processing and co-ordination?

7. A word of caution: Are you going *overboard* on controls? Are you investing a hundred dollars a week, for example, to safeguard the accuracy of a freight bill application where the average expected loss might be less than thirty dollars a week?

8. Has a network of accountability been established to point the finger at error committers, and take action where needed?

9. Have procedures been carefully examined to make sure instructions are not being misinterpreted by operating personnel?

10. Is there a follow-through system to determine that loopholes, once detected, are being plugged forevermore?

11. Is the attitude of one or more persons in the department conducive to inaccuracy? If an error is made, is the person involved properly concerned, or does he just shrug his shoulders when informed of it?

In many companies, the function of systems analyst is being performed by individuals with widely diversified titles. But whatever the title, and whatever the operation involved, these four components of systems analysis are applicable to all: simplicity, speed, economy, and accuracy.

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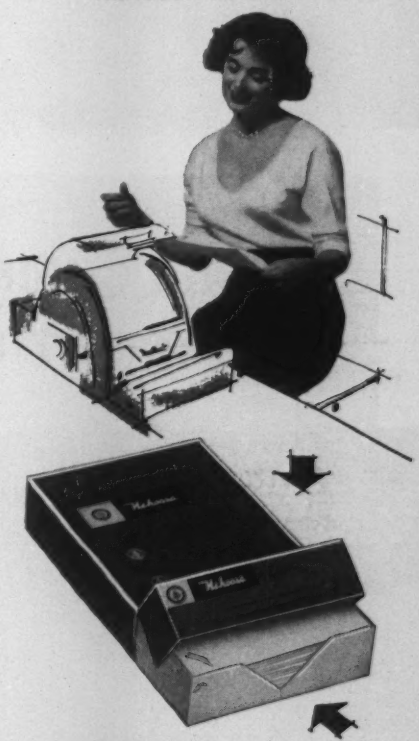

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Through use of a computer service center . . .

RETAIL CHAIN GAINS BETTER SALES FIGURES FASTER—WITHOUT RAISING COSTS

Customer glances apprehensively as clerk records her sale, National Cash Register's Sales-tronic 21 simultaneously creates punched paper tape for processing on computer.

TO THE AVERAGE small business man, the world of electronic data processing is a frightening one indeed. In his mind it is a world of multi-million-dollar Goliaths spewing forth reams of esoteric data and defiantly flashing their myriads of lights while he, a foresaken David, cringes in a corner. These nightmares are especially common in the field of retailing.

Low-cost computing—now available to the medium sized retailer through lease, purchase, or on a service bureau basis – promises to change this picture. A computer that uses punched paper tape and rents for about $2,000 a month can provide daily information on geographic distribution of inventory by sales areas, department sales trends, existence of weak and strong sales areas, and sales performance by departments and by stores. For the retailer who cannot afford this price, computer service centers offer sales analysis programs tailored to the customer's needs and budget.

An example of how these centers

Sales figures from Clark's discount houses (top of facing page) are processed on Bendix G-15 at Mountain Data Systems (above).

can serve retailers is the work of Mountain Data Systems, Bedford Hills, N. Y. (See "Automation in the Office," *Office Management and American Business*, September, 1960.) This is one of the nation's first—perhaps the only—small-scale computer center devoted entirely to the processing of business data. Its customers include a market research firm performing nation-wide surveys and a chain of five, geographically dispersed discount houses. Equipment consists of a complete Bendix G-15 computer system, a National Cash Register add-punch for creating paper tape, a Friden Flexowriter for programming and correction work, and a few small adding machines. Three full-time workers operate the center in upper Westchester County, less than an hour's drive from New York City.

While the service center is small, its applications may extend throughout retailing. Mountain Data is proving that a small staff and a minimum of inexpensive equipment can produce fresher, more complete, and more reliable marketing information than has been economically feasible before.

A similar service center, which also uses a Bendix G-15 computer, is A.S.C. Tabulating Corp., Lake Bluff, Ill. This center specializes in accounting work. According to A.S.C. President Charles A. Bail, the computer can process a monthly financial report with 300 bookkeeping entries for a cost of $10. For a thousand entries, the suburban Chicago firm charges about $35.

This Friden tape punching machine is one method of preparing input for the computer.

The two centers operate along similar lines. Their customers usually prepare their own punched tape, which they send to the centers each day by air mail. In a retail store, these tapes are created by special cash registers that simultaneously record each sale and punch it into tape. An accountant can produce his own tape on any adding or bookkeeping machine with a tape punching accessory. These machines, which also prepare tapes for processing payroll, inventory, invoicing, and other operations, are priced from about $2,000 to $4,000.

When the retail store tapes (five-channel) arrive at Mountain Data, they are spliced together end-to-end in cash register order, and reeled on to a large tape spool. These spools are assembled on an individual store basis, and the roll itself is coded by store and date. Reports

Service centers provide retailers with timely sales analyses

are prepared daily and returned, on the average, within two days after the customer mailed in the tapes. The information that goes into the daily reports is stored on reels of magnetic tape for use later in preparing weekly and monthly reports. One reel of magnetic tape has the capacity for storing monthly sales data for three large retail stores.

Mountain Data's biggest customer is the five-store chain of Clark's discount houses. For these stores, the service center prepares sales analysis reports that allow management to supervise the selling activity of an individual department or store, and to detect immediately the existence of weak sales areas. The reports also are accurate instruments to check the turnover of merchandsie. All of these reports are printed out of the computer by an automatic typewriter at a rate of seven digits a second.

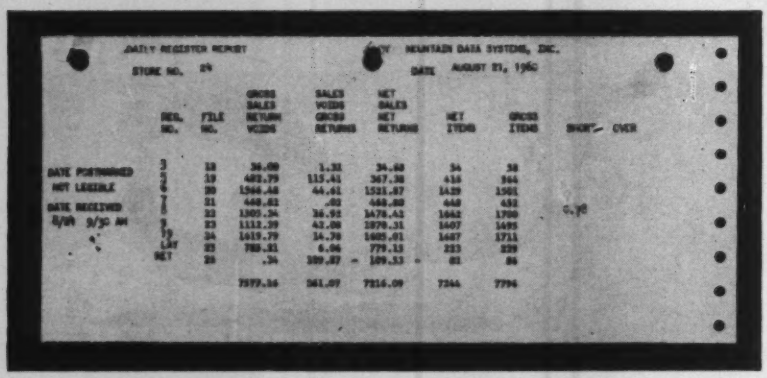
Another benefit that Clark's derives from the program is the ability to forecast seasonal and local buying trends. "This is an extremely important phase of chain store operation," according to Joseph Mountain, president of the computing firm. "Since the nature of their business requires that they operate on a quick turnover basis, some of the operators do very little or no warehousing, and vendors are instructed to ship directly to the operating units."

In addition, sales analyses are helpful in maintaining an up-to-date record of layaways and returns. A high record of returned goods in a department may suggest that one of its products is of inferior quality and that adjustments are necessary. The computer does not analyze sales of individual products, however, merely total department sales. While product sales analysis is possible under the system, the time and expense of preparing data at the stores is prohibitive for most retailers.

Accuracy is maintained through a proving operation. Accompanying each package of tapes is a summary sheet containing a record of the total sales on each tape. After totals are printed out of the computer, they are proved against these summary sheets. Overages and shortages are entered manually on the daily reports. Another checking feature is used at the point of sale. If the clerk knows she has entered a wrong amount or wrong department in recording a transaction on tape, she depresses a "void" key and punches the same incorrect entry again. Then, she punches the correct entry. These void entries appear on the reports, but are automatically subtracted from all gross sales totals.

Although Mountain Data has been in operation little more than a year, general manager Nelson Marsh foresees many new applications for low-cost computing. Payroll programs, for example, are being developed to compute overtime and piecework, Social Security and income tax. The center presently is writing a payroll program for the National Commercial Bank of Albany, Albany, N. Y.

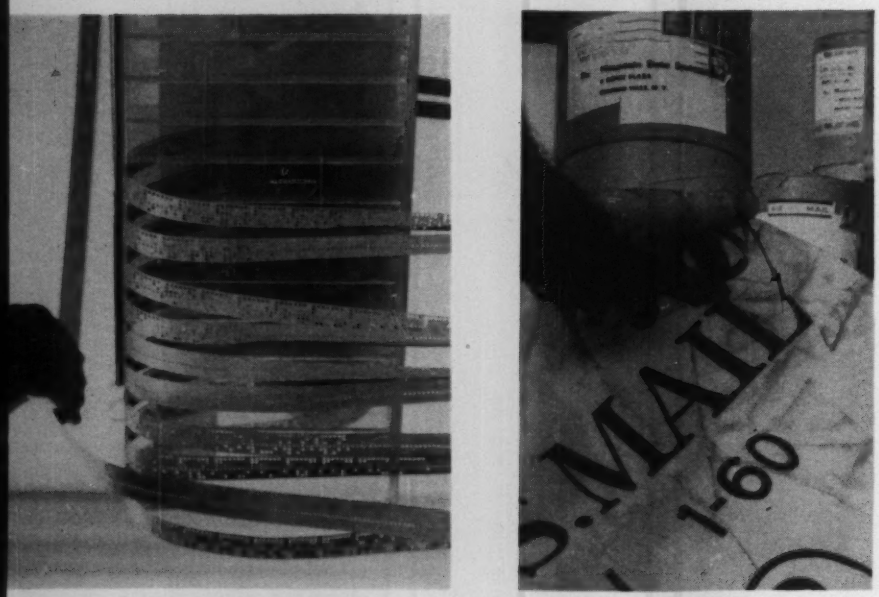
Another possible application is an inventory control program for liquor stores. Such a program would enable these stores to tighten their inventory control procedures and to reduce the cost of keeping



DAILY REGISTER REPORT — BY MOUNTAIN DATA SYSTEMS, INC.
STORE NO. 24 — DATE AUGUST 21, 1960

DEPT. NO.	FILE NO.	GROSS SALES VOIDS	SALES VOIDS GROSS RETURNS	NET SALES NET RETURNS	NET ITEMS	GROSS ITEMS	SHORT — OVER
	3	38.00	1.31	36.69	34	38	
DATE PURCHASED	5	482.79	115.41	367.38	416	344	
NOT LEGIBLE	6	1560.48	44.61	1521.87	1429	1501	
	7	440.81	.02	440.80	440	441	
DATE RECEIVED	8	1305.34	36.91	1476.43	1442	1390	0.76
8/18 9/30 AM	9	1112.39	42.08	1070.31	1407	1495	
	10	1619.79	14.78	1605.01	1487	1711	
	LAY	783.31	6.06	779.15	223	229	
	NET	.34	109.87 -	109.53 -	81	86	
		7379.36	361.07	7216.09	7344	7794	

Daily sales analysis reports (above) are printed out by the Bendix G-15 computer.



Input medium is punched paper tape . . . air mail speeds tapes to Mountain Data.

CONTROL AT SHELL

J. W. Haslett, Methods and Procedures Manager, Shell Oil Company

How Shell Oil gets out 50,000 statements a day

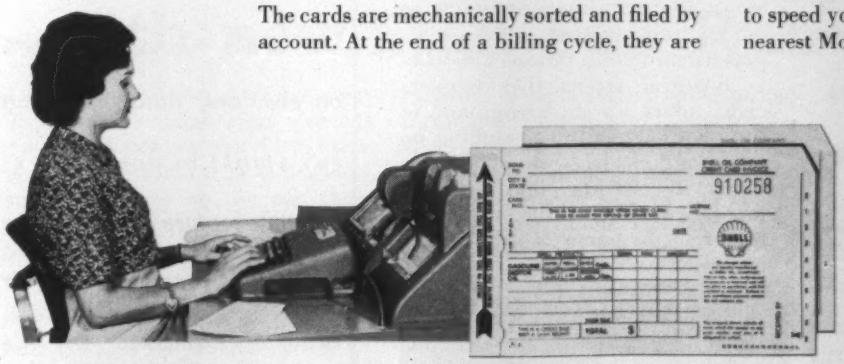
Shell Oil Company's new automated system speeds the processing of paperwork involving 60,000,000 forms. The system maintains a high degree of accuracy, and has improved billing service to over 1,000,000 credit card customers.

The basic unit in the system is the sales ticket—a two-part tab card set. At the time of sale, the customer's credit card is used to imprint his name and address; the details of the transaction are entered by hand. Part 2 of the ticket goes to the customer. The tab card (Part 1) is forwarded to the company's main office, where the handwritten information on the card is punched into the card itself.

The cards are mechanically sorted and filed by account. At the end of a billing cycle, they are run off on electric accounting machines which automatically print a complete statement and punch a return card for the customer. After being microfilmed as a permanent record, the cards are sent with the statement.

Automation has virtually eliminated transcribing errors. Processing is faster at every stage, from the point of sale to the reconciliation of receipts. The sales ticket is a specially designed Moore form—the Company's control in print.

The Moore representative worked closely with Shell in developing the forms that make this ADP (Automated Data Processing) system work. For more details on what Moore can do to speed your paperwork, get in touch with the nearest Moore office. No obligation, of course.



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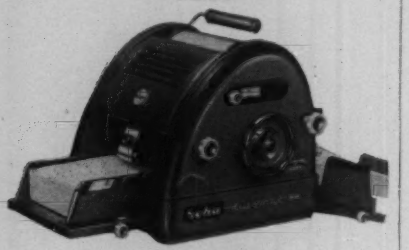

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- strips
- counts
- interleaves
- removes lint
- adds ink

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Company_____

Address_____

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(Circle No. 40 on Reader Inquiry Card)

Accountants also use computer service centers

break-downs of the types of liquor sold, as required by state liquor laws. Of these applications, Marsh says, "We are looking for areas where we can do things that punched cards can't do as economically." It is this field that Mountain Data is prepared to serve: the large number of businesses that cannot afford giant data processing systems of their own but which are too complex for a small punched card system.

A.S.C. Tabulating, meanwhile, is concentrating on serving public accountants. An example of their customers is the accountant who does the books monthly for 30 small stores. Instead of entering the monthly figures by hand and doing calculations manually, he merely enters all the figures for each of the 30 stores on a bookkeeping machine that creates a single, eight-channel punched paper tape. He then delivers or mails this tape to A.S.C. Tabulating and receives 30 separate printed reports by return mail. The reports show complete results for the month and for the year to date, and even include the percentage of individual expense categories to income.

Hourly reports possible

At the Illinois service center the Bendix G-15 performs four operations simultaneously: It reads current information off the tape, reads information about previous operations off punched cards, does the sorting and calculating, and punches up-to-date information on cards from which the report is prepared by an off-line printer. According to A.S.C. President Bail, existing business machines can process a monthly financial report that requires eight hours for an accountant to complete manually – assuming no errors are made – in about two hours. By feeding that punched tape directly into the computer, however, the same report can be processed and printed in approximately 15 minutes.

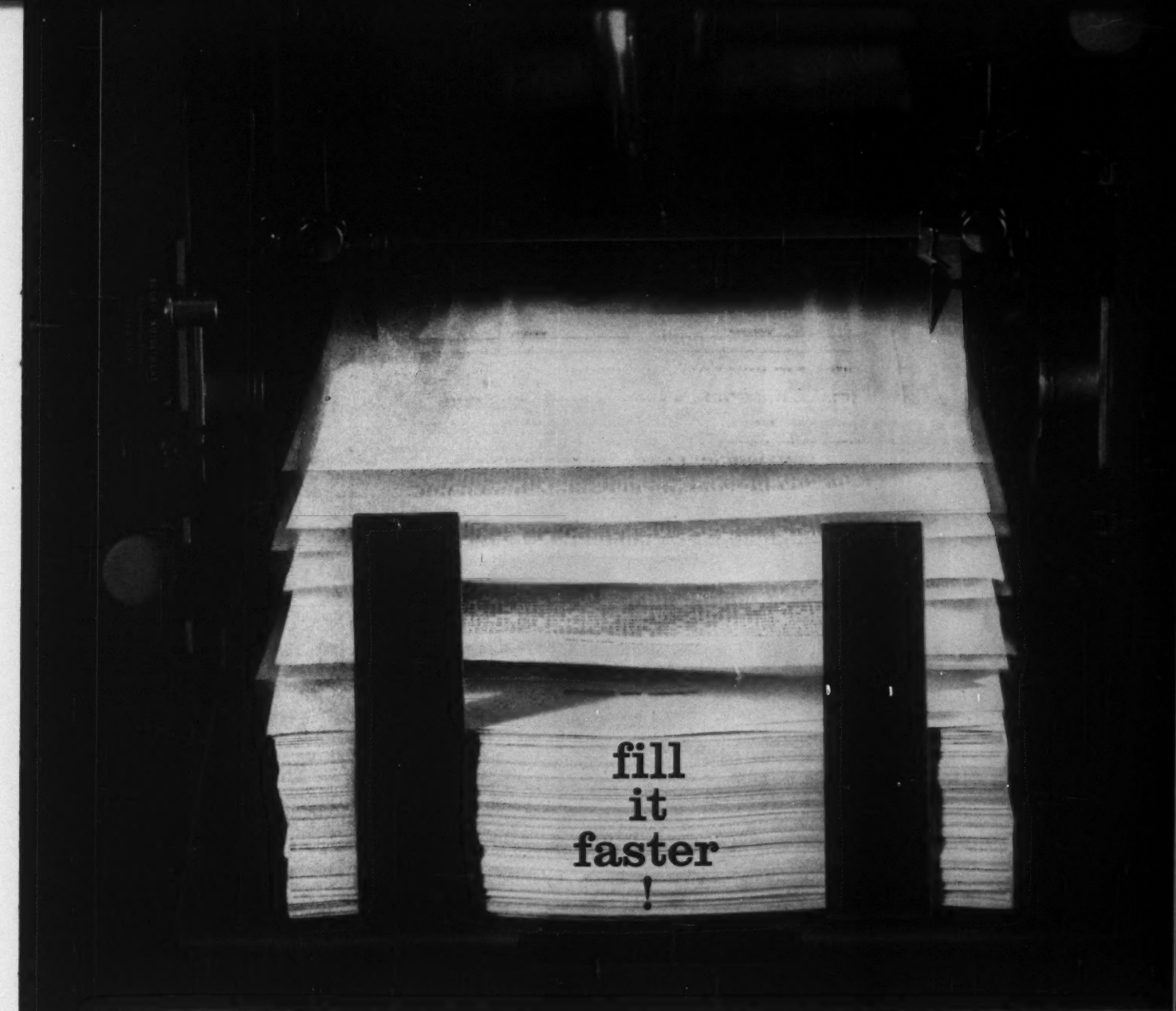
Types of punched tape applications already processed electronically by A.S.C. Tabulating include general accounting and specialized accounting such as sales analysis, inventory control, construction cost accounting, time accounting for CPA and legal firms, accounting for unions and country clubs.

More sophisticated variations of these service centers are limited only by the extent of human imagination. In a system capable of producing hourly reports, for example, the retailer could transmit punched paper tapes via teletype. The service center could then process the tapes directly through the computer (provided the information is in a language acceptable to the computer) and return them minutes later over the same teletype lines.

These advanced applications of low-cost computing promise great benefits for all but the smallest of retailers in the decade ahead. Yet, only the progressive companies will take advantage of these time and money saving methods. The one-girl office of 1960, in all probability, will be the one-girl office of 1970. But many small businesses can use the advantages of electronic computation. Although they cannot afford the costs and administrative problems of computing centers, large staffs of computer specialists, and employee training programs, these businesses can find solutions to many of their problems in independent data processing centers.

NEXT MONTH

This article is No. 2 in a series on electronic data processing for small business. Next month's feature will describe methods of preparing data for input to computer service centers.



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(Circle No. 27 on Reader Inquiry Card)

HOW WE ELIMINATED OVERFLOWING FILE CABINETS

VISIrecord tub files in Established Positions Section permit one-third expansion.

Michigan Civil Service cuts filing space by one-half

By CHARLES S. PEARSON

Assistant Deputy Director
Michigan Civil Service Commission

LIKE MANY another recordkeeping office these days, one of Michigan Civil Service Commission's key sections recently found itself swamped by overflowing files.

As the office space headache became acute in our Established Positions Section, we turned to a combination of Microtape and VISIrecord visible-vertical filing for relief. The happy result is more room, more comfort, and more efficiency.

Not only does the new system enable this important section to do the same amount of work with one less clerk, but it saves 55 per cent of the office space. Despite this, the system leaves room for a one-third expansion within its three files.

This growth provision is vital in the Established Positions Section. The State of Michigan now employs more than twice as many persons under civil service as it did 15 years ago. Currently, there are more than 30,000 state employees filling jobs in some 1,800 different civil service classifications.

But even if the state did not hire a single additional employee, the files would continue to grow.

The section maintains a complete history of each position set up during the state's 22 years of civil service. Every time an employee is hired, promoted, transferred, or taken off the state payroll, an entry is made on the historical record of the job he filled.

Thus, the normal job turn-over, plus the steady increase in the number of state employees, means a constant growth in the Established Positions Section's files.

System takes 76 square feet

In the past, these records were kept in flat, shingled, file trays. These outmoded visible files, together with necessary working space, occupied 170 square feet. To locate job records, clerks had to go to the files, pull out file drawers, and flip open the card pockets.

Gradually, the section's space problem became more acute. Space is fairly tight on our floor, and outside office space is expensive and hard to find.

Faced with this dilemma, we consulted with the local VISIrecord representative and came up with a combination of VISIrecord file cards and equipment and pressure-sensitive Microtape.

The new installation consists of a row of three VISIrecord T-60 tub files, two VISIrecord RPT rolling tables, and a Microtape reader. The two tables are attached to the three tub files and move freely along the front of them on rollers. The clerks are able to work while seated at these free-moving tables, instead of having to stand to handle the files, as in the past.

This is quite a factor since the section's staff must constantly post changes and obtain information needed by the civil service director and other state officials. The section handles an estimated 200 forms a day pertaining to job classifications.

The new visible-vertical file cards have enabled the section to handle both posting and reference work faster and more comfortably. The seated clerks can spot a desired divider tab in an instant in the VISIrecord files. A flick of the finger opens the numerically indexed files to the proper card. It can be removed from the file, posted, and returned to its place in an instant.

But it was the critical shortage of floor space which prompted the change-over. The new system fits into 76 square feet, whereas the old system required 170 square feet. Microtape was also a key factor in this space-saving.

To make the change, every card in the section's flat, shingled files was reproduced onto pressure-sensi-

tive photographic paper. The images, each smaller than a thumbnail, were simply "stuck on" the new visible-vertical file cards. In some cases, the complete history of an established position was on one side of one of the old file cards and required only one image. In other cases, two or three images were required. These are side-by-side on the same tiny strip of paper.

The name of the incumbent in each established position was placed on the first line of each of the new cards. All subsequent entries pertaining to each job will be placed on the 41 remaining lines of the new cards.

Therefore, the new cards provide a complete history of every job established under Michigan's civil service laws. Microtape furnishes all the information that was on the old cards. Entries on the new cards record transactions that have occurred since the change-over to the new filing system.

Jobs are classified by division, section, unit, and position. Accordingly, each is given a four-part number. Every job also falls into one of 142 coded pay ranges.

Code numbers are also used to describe each transaction pertaining to a job. These numbers tell whether the incumbent was hired, transferred, promoted, resigned, went on leave, etc. In addition, transactions are numbered consecutively.

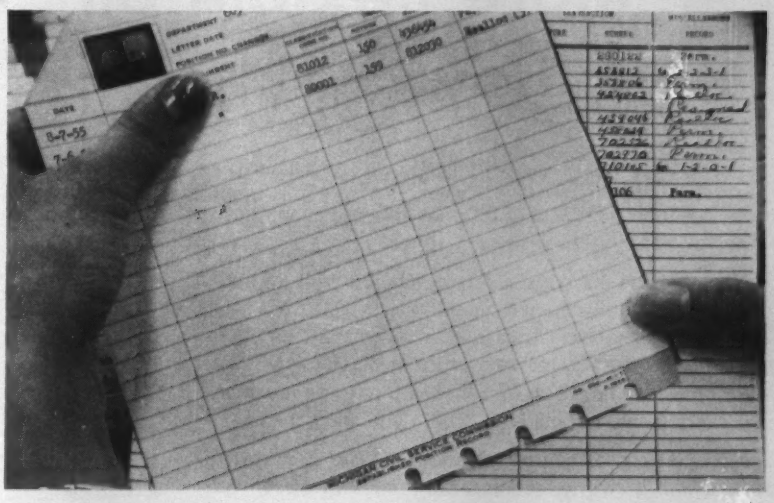
In the files, intermediate dividers separate the banks of cards. Pink index tabs on the dividers identify the divisions by name. White tabs on the dividers identify each bank of cards according to the job numbers grouped within the bank.

Cards are offset in each bank, leaving only the diagonal top and right-hand margin of each card exposed. The job position number, which appears in the diagonal margin, is visible at all times.

Cards are filed, of course, by position number, with each card representing an established position. A cross-reference by employee is available in our roster section on punched cards.

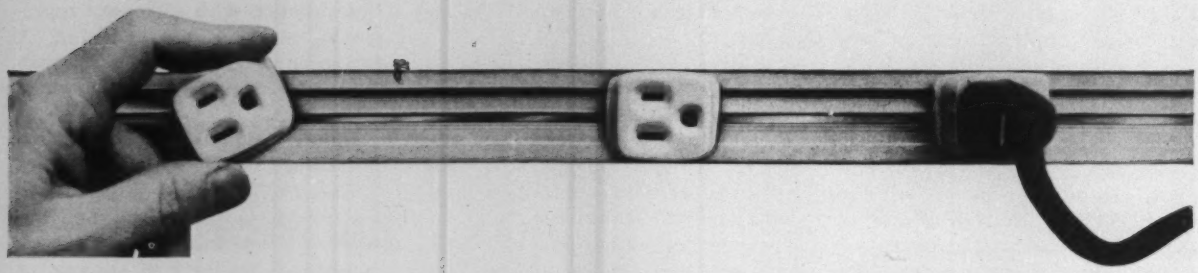
Colored signals are helpful in indicating certain job situations. These visible signals, attached to the top of a card, indicate that there is a job vacancy, that an incumbent is on leave of absence, or any of several other facts.

Plenty of room for expansion of our Established Positions file is left in each bank of cards. Each bank



Miniaturization at work: Microtape affixed to upper lefthand corner of new file card contains all information from both sides of previous file card (background).

Clerk enters information in longhand . . . department records are checked speedily with aid of analysis rack and Microtape reader.



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Outlets anywhere you need them

(Circle No. 13 on Reader Inquiry Card)

Filing is efficient

will hold 32 cards, and an average of 25 cards is currently assigned. This means that as new positions are established, new cards can easily be fitted into each bank by shifting cards.

Cards are not fastened into the files. They can be easily removed—for scanning, posting, study, or examination on the Microtape reader—and just as easily returned to the files. Eight notches at the bottom of each card fall securely over small rods which run across the bottom of the tub files, lodging the cards firmly in place. Cards do not engage or wear against these metal rods, however. After falling into place, cards stand at a 40-degree angle on a corduroy mat which covers the bottom of the T-60.

Taxpayers' dollars saved

When a card is taken from the files, a portion of the top center of the card to the absent card's right is exposed, disclosing the word "out" to indicate that a card is missing from the bank. This serves as a landmark and speeds the process of returning cards to their places.

It is no trouble, incidentally, to take whole banks of cards from the VISIrecord files, when a department's personnel set-up is to be analyzed, for example. The dividers are not attached in the files, and can be removed and returned with their card banks intact. An analysis rack is kept alongside the Microtape reader to hold banks of cards.

The Established Positions Section's whole filing set-up has been improved by the change-over in the jobs file. The section has 20 four-drawer letter files in which it keeps such important documents as correspondence and forms authorizing the establishment of a new state job. These files have been rearranged more efficiently in the space saved.

In short, the new system enables the Established Positions Section to do more work, better, in less space, and with fewer clerks. The real importance of all this is that the tax dollar now is being put to more efficient use by the Michigan Civil Service Commission.

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(Circle No. 53 on Reader Inquiry Card)

AUTOMATION IN THE OFFICE

BURROUGHS OFFERS SMALL LOW-COST, GENERAL-PURPOSE COMPUTER

A NEW desk-size electronic digital computer, the E103, was announced last month by the Burroughs Corp.

Simultaneously, the company announced a price reduction on an earlier model of the small computer, the E101, from $38,325 to $26,750. The E101 is used primarily for scientific and engineering applications, while the new E103 has been developed especially for business data processing.

The new unit will sell for $29,750, which makes it the lowest priced general purpose computer on the market, according to Ken T. Bement, vice president-marketing for Burroughs.

Both the new computer and the E101 may be leased for $875 a month.

Burroughs claims its E103 desk size electronic computer is lowest priced on market.

Burroughs anticipates that the new computer model and reduced prices on the E101 will greatly expand the market for small computers, Mr. Bement said.

"Sophisticated electronic data processing is now within the price reach of many small and medium sized businesses," he continued.

The manufacturer has developed a series of packaged programs to apply the E103 to major data processing jobs such as sales analysis, payroll, labor cost distribution, tax billing, dairy route accounting, bond yields, and interest projection tables, the company officer reported.

An accounting machine printer and a new control unit said to give a wide degree of programming flexibility will be standard equipment on the E103. Optional paper tape or punched card equipment may be used to extend the machine's problem-solving capabilities.

The new general purpose computer features a magnetic drum memory with a storage capacity of 220 "words." Each word consists of 12 digits plus a sign.

Pitney-Bowes installs letter sorting machine

An advanced design letter sorting machine, capable of sorting more than 60,000 mixed letters per hour to its 300 destination boxes, was installed at the city post office in Washington, D. C., last month.

Developed by Pitney-Bowes, the new unit was described by Postmaster-General Arthur E. Summerfield as "another major step forward" in the continuing Post Office program to mechanize wherever possible the handling of an

increasing mail volume that now totals 65 billion pieces a year.

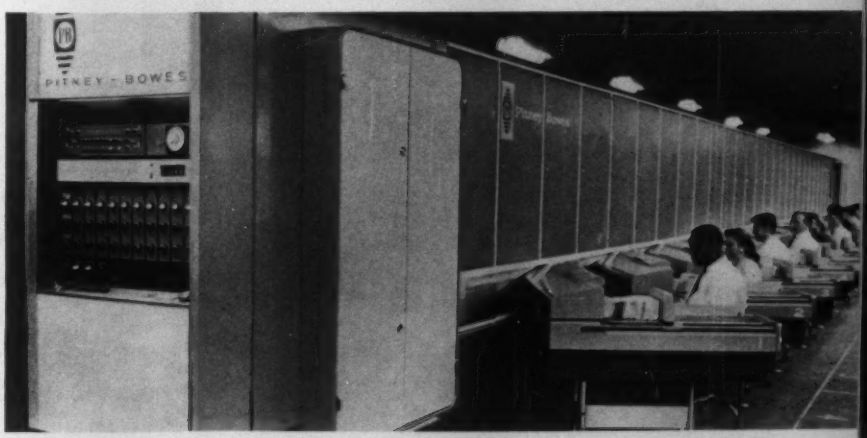
The new mail handling device, called the Boxer, is adaptable to mail coding and electronic reading systems, although it is not at this time activated by them. Until such systems are adopted, the input of mail is directed by 12 consoles, each of which is controlled by a human operator. Each operator can direct any letter received to any one of the 300 destination stations at a rate of about 60 letters a minute.

In another Post Office development, the postmaster-general announced that a former optical scanning device capable of "reading" addresses on letters is now being improved to permit it to read addresses printed entirely in capital letters, and also to register postal zone designations. The unit formerly could interpret only those addresses printed in conventional upper and lower case letters, and could not distinguish postal zones.

The optical scanning device, developed by the Intelligent Machines Research Corp., a subsidiary of Farrington Manufacturing Company, can now read and sort 9,000 letters an hour for 40 destinations. It "reads" an entire city and state line, spelled out or abbreviated, as the letter passes before its "eye." Recognition is based on the general shape of the letters.

The importance of refinements which will enable the machine to interpret addresses printed entirely

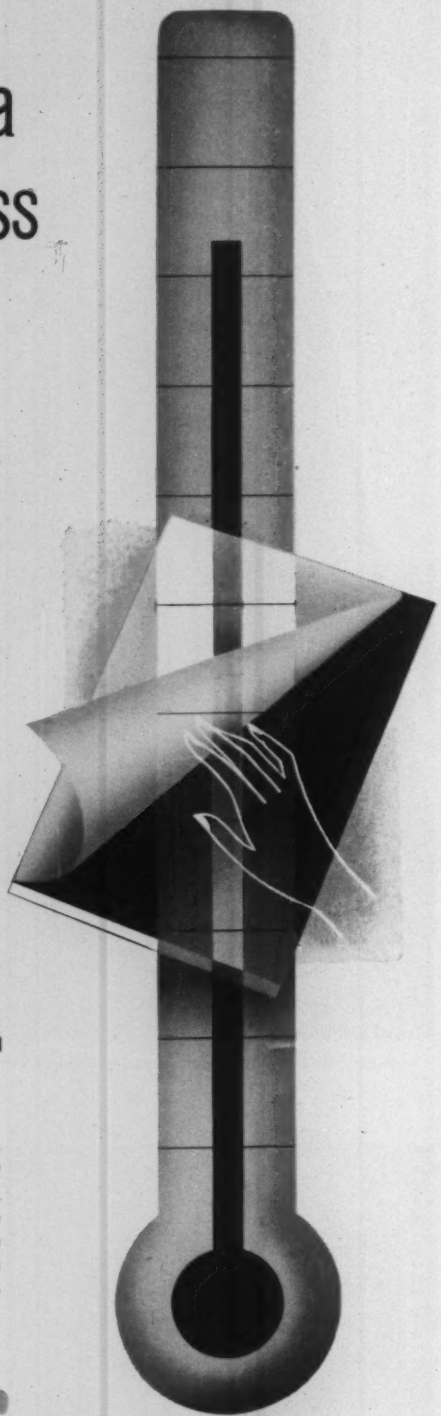
Pitney-Bowes letter sorting machine goes into operation at Washington, D. C.



View of back of machine shows some of 300 destination boxes . . . front view shows operators sorting 60,000 letters an hour.

WHERE DO YOUR SPIRIT MASTERS RANK IN THE

Columbia Cleanliness Index



The Cleanliness Index dramatically demonstrates the wide gap in the cleanliness of spirit masters—ranging from the grime and aggravation of ordinary uncoated purple masters to the immaculate performance of Columbia's supercoated, super clean Marathon Blue Ready-Masters.

It could be quite a revelation to find out just how clean your spirit masters really are . . . not only in the preparation, but in the handling and duplicating as well. It could also result in quite a saving in time and money, to say nothing of the improvement of the quality of your duplicating.

Columbia salesmen are anxious to demonstrate these differences at no cost or obligation to you. They'll also be happy to advise the correct master for a job that's particularly troublesome to you. Write for a free demonstration of the Cleanliness Index. Ready-Master Division, Columbia Ribbon & Carbon Mfg. Co., Inc., 10511 Herb Hill Road, Glen Cove, N. Y.

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(Circle No. 18 on Reader Inquiry Card)

in capitals is emphasized by the fact that a large part of the nation's commercial mail is addressed by mailing equipment which print entirely in capitals, the postmaster-general declared.

New communications system links 12 states

A new, 12-state automatic communications system designed to provide faster service and information to people interested in buying homes in Florida has been put into operation by the Mackle Company and General Development Corporation, it was announced recently.

The new system, which employs an 83B2 teletypewriter system engineered by the Long Lines Department of the American Telephone and Telegraph Company, ties in the company's sales headquarters and nine development sites with its realty and branch offices in the Northeast. When a sale is made at any point, a teletypist prepares a paper tape carrying details of the transaction, and places it on a transmitter. A two-letter code in the tape automatically delivers the message to a control office in Miami. This office, in turn, relays details of the sale to all points on the circuit, preventing possible duplicate sales of the same property.

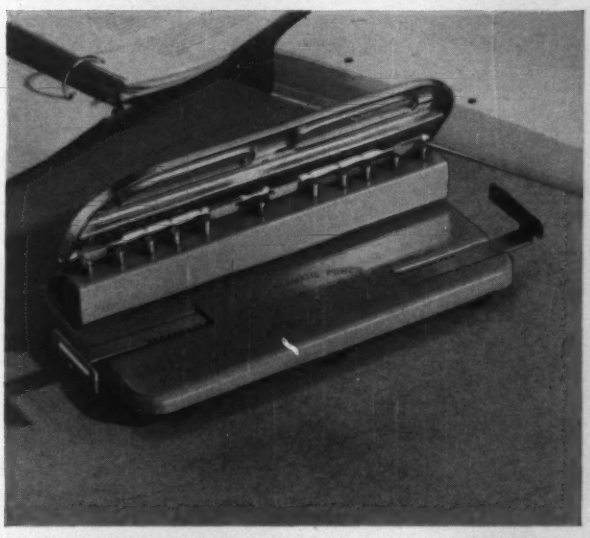
National Cash Register announces two computers

Two new electronic products designed to speed paperwork in banks were announced last month by the National Cash Register Company — the National 315 computer, and the 310 controller computer.

Together with previously developed NCR equipment, the new units "round out NCR's bank automation program and provide for the first time complete automation systems for every size and type of institution," according to Robert S. Oelman, NCR president.

The basic 315 computer system will rent for less than $8,000 a month, according to the manufacturer, and "is capable of fully auto-

How to punch HOLES in paper easier...faster!



Mutual Centamatic Desk Punch **Model 300**

There are 2-hole and multi-hole punches in the Mutual line, carefully engineered to save you time. They offer you higher capacity, too. There are three models which center your paper automatically (the patented Centamatic feature). Mutual punches are priced in line... and they last and last.

Mutual Adjustable Hand Punches **Model 27**

There are three hand punch models, which punch from two to seven ¼" holes. On two of these models, the heads click right into place (these are on the Spacematics!)... or can be "parked" in a jiffy. Mutual Hand Punches are lightweight. Their feathery balance in the hand makes them simple to use.

Mutual desk and hand punches are earning a top reputation today. They are stronger, easy to use, accurate, and long lasting. Everyone who punches holes can have their own punch for just a few cents a month! Make sure your next punch is a Mutual punch . . . with Centamatic paper centering on desk punches; and Spacematic heads on hand punches, which click into place. Sold by almost every reputable stationery store.

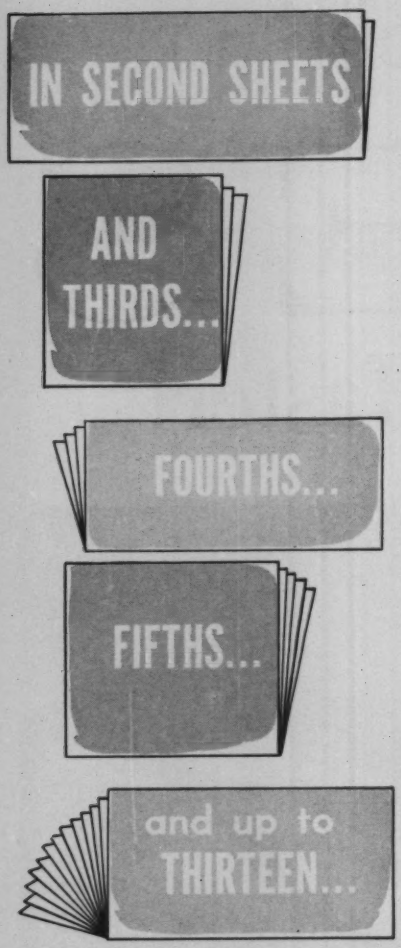
Mutual

PRODUCTS COMPANY, INC.

Manufacturers of a complete line of hand and desk punches

110 Barber Avenue, Worcester, Mass.

(Circle No. 55 on Reader Inquiry Card)



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Send for samples today!

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BROWNVILLE PAPER CO.
BROWNVILLE, NEW YORK
(Circle No. 11 on Reader Inquiry Card)

mating a bank's recordkeeping job."

The 310, which rents for $2,450 a month, was developed to automate the sorting, listing, and posting of checks in those banks which have installed or plan to install the Pitney-Bowes National sorter-reader used with National's Automated Post-Tronic.

Outstanding features of the new 315 computer system are low cost and expansibility, according to Mr. Oelman. Built in modular style, the solid-state computer can be expanded as a bank's operations grow. By adding units, its memory capacity can be increased as much as 20 times — from 6,000 to 120,000 characters.

The equipment, it was reported, can control the operation of as many as four magnetic character sorter-readers, and automatically direct the sorting of checks at speeds up to 180,000 per hour.

First bank to order the new system is the Meadow Brook National Bank, West Hempstead, L. I., New York.

A system of "buffers" makes it possible for the 315 to perform several different operations at one time. While the central processor is handling one job, other units in the system can perform other tasks, the company said.

The 315 data processor also includes a new high-speed printing mechanism which enables the equipment to prepare some bank documents three times faster than a conventional computer printer. Called a multiple lister, the device permits the equipment to print three different documents at once, each with different spacing.

First installation of the 315 system is scheduled for the first quarter of 1962, the company said.

The NCR 310 desk-size controller-computer is designed for use with the Pitney-Bowes National sorter-reader and National's Automated Post-Tronic.

The 310 unit automatically creates a punched paper tape record of the account number, amount, and transaction code of checks and deposits, while these documents are being processed by the sorter. It also simultaneously checks the accuracy of this information. The equipment is able to read entire account numbers.

Brookline Savings & Trust Company, Pittsburgh, and Society National Bank of Cleveland have placed the first orders for the 310, NCR said.

First installation of the 310 is scheduled for the first quarter of 1961, the company said.

Point-of-sale system speeds bookkeeping

A new point-of-sale automatic recording system designed to speed department and chain store sales and bookkeeping operations was announced recently by Universal Controls, Inc.

The "Uni-Tote" system, according to the manufacturer, performs the entire process of sales check imprinting, accounting, billing, credit check, and inventory control in a direct succession of automatic steps.

Input unit of the system is a point of sales keyset panel. As a charge customer makes a purchase, the sales clerk inserts the charge plate, her own identification number, and a pre-printed merchandise ticket for the item sold in the unit. Information from the three records is transmitted to a central control unit, which not only computes a running total on sales, but also relays customer information from the charge plate to a credit watch list for an instantaneous credit check. If credit has been stopped, or if the charge plate being used has been reported lost by its rightful owner, the information is flashed to the credit clerk handling the account, who can stop the sale by 'phoning the sales clerk.

Information entered at the point of sale register also causes a complete sales journal to be printed, and produces directly a conventional punched card for each sale allowing automated processing of all subsequent accounting functions.

Finally, as the sale is completed, the point-of-sale register delivers a printed sales check for each purchase, thus eliminating entirely the sales clerk's book and pencil.

USE THIS POSTAGE-FREE CARD NOW!

. . . to get your free Silver Dollar Paperweight

(A genuine U.S. silver dollar encased in heavy, jewel-clear Lucite. No advertising or printing.)

Handsome and useful! A "where-can-I-get-one-like-it" conversation piece for your office desk.

Collector's find! Unique and beautiful table or desk ornament for home.

Put it on the paperwork that a MARCHANT can help you breeze through!

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Division of Smith-Corona Marchant Inc.

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YES, I WANT ONE!

Please instruct the nearby Marchant office to deliver my free U. S. Silver Dollar Paperweight when it is convenient for me to try a Marchant calculator on my own figurework, without obligation.

TYPE OR PRINT ALL INFORMATION BELOW

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TYPE OF BUSINESS _____

Request honored only when complete information, including title, filled in. Limited stock—offer subject to supply on hand.

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Boost output, prevent costly errors, with the world's fastest desk calculator!

See the remarkable new Marchant Deci•Magic, with fully automatic decimal setting and straight-line dial proof of all entries and answers. Can save you time, mistakes and money on all the figuring you do — or wish you *could* do on the machine you now have.

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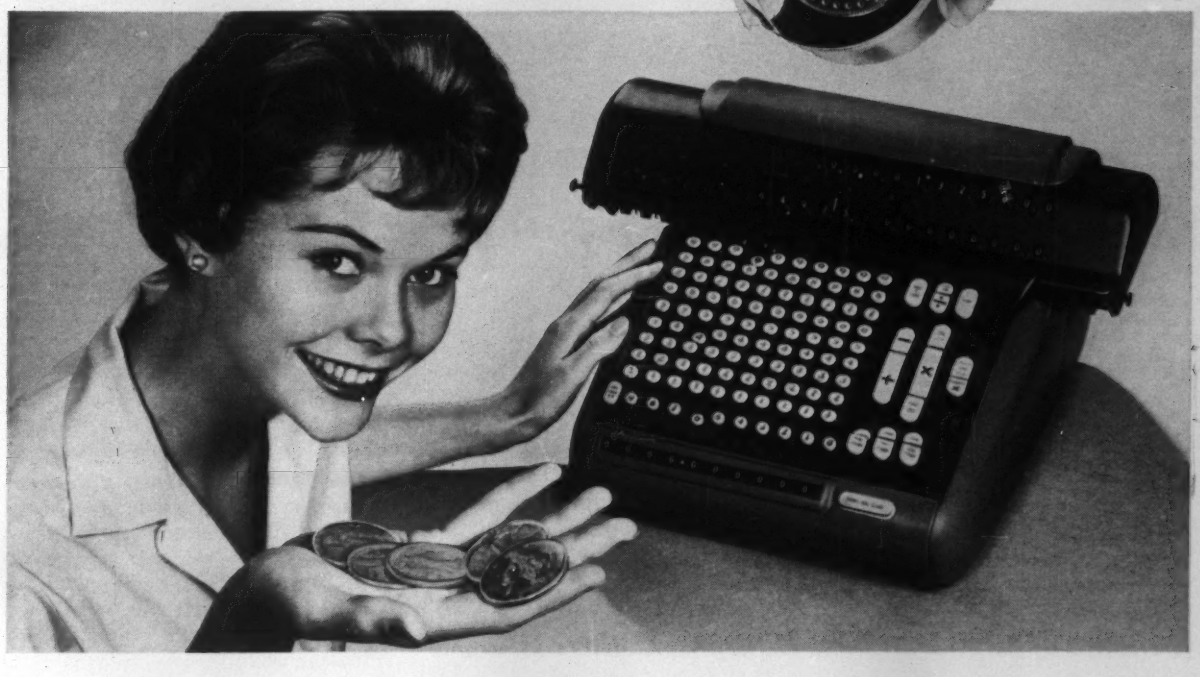
Accept this silver-dollar paperweight FREE...

Genuine U.S. Silver-Dollar in crystal-clear Lucite. Exactly as shown, with no advertising.



...for seeing how this calculator prevents figurework errors —puts $5 in your pocket for every mistake avoided!

It costs you $5.00, on the average, to catch and correct each figuring error!

So every time the fast, accurate Marchant calculator *prevents* a mistake, you actually put $5.00 in your profit column.

See how a Marchant can do this for you with unerring automatic operation. Test it on your own figurework. *And receive, free, a beautiful and unusual American Silver-Dollar Paperweight as a token of our appreciation.*

MAIL THE POST CARD TODAY FOR YOUR FREE SILVER-DOLLAR PAPERWEIGHT!

Speedy Marchant Deci·Magic stops decimal errors automatically

With this unerring figuring machine, the operator touches just one key one time and *all* decimals are set automatically, for the entire problem and in the answer. Then she just "writes" the figures on the keyboard as she would on paper. The Deci·Magic does *all* the rest—delivering the answer at *twice the highest speed* of any other desk calculator!

SCM MARCHANT

DIVISION OF SMITH-CORONA MARCHANT INC.
OAKLAND 8, CALIFORNIA

Fine calculators and adding machines of advanced design

Scene of 1960 Democratic convention will house exhibits of office equipment.

SALUTE TO COMMERCE IN THE WEST

is theme of 1960 *Business Equipment Exposition in Los Angeles Memorial Sports Arena, Nov.* 1-4

"SALUTE TO COMMERCE in the West" will be emblazoned in lights as the 1960 Business Equipment Exposition officially opens its doors at noon on Nov. 1 in the Los Angeles Memorial Sports Arena.

Triggering the lighted display will be a signal beamed from a U.S. Navy Transit II satellite somewhere in space. This signal will also cause a display of five globes to rotate. These five globes of descending size depict the earth and its shrinkage through time, space, and motion.

All of this scientific pageantry is part of the second in the series of expositions sponsored by Office Equipment Manufacturers Exhibits, Inc., a subsidiary of the Office Equipment Manufacturers Institute. The show, which follows last fall's inaugural exhibit in Washington, D.C., is intended to emphasize that the business equipment industry is part of the future.

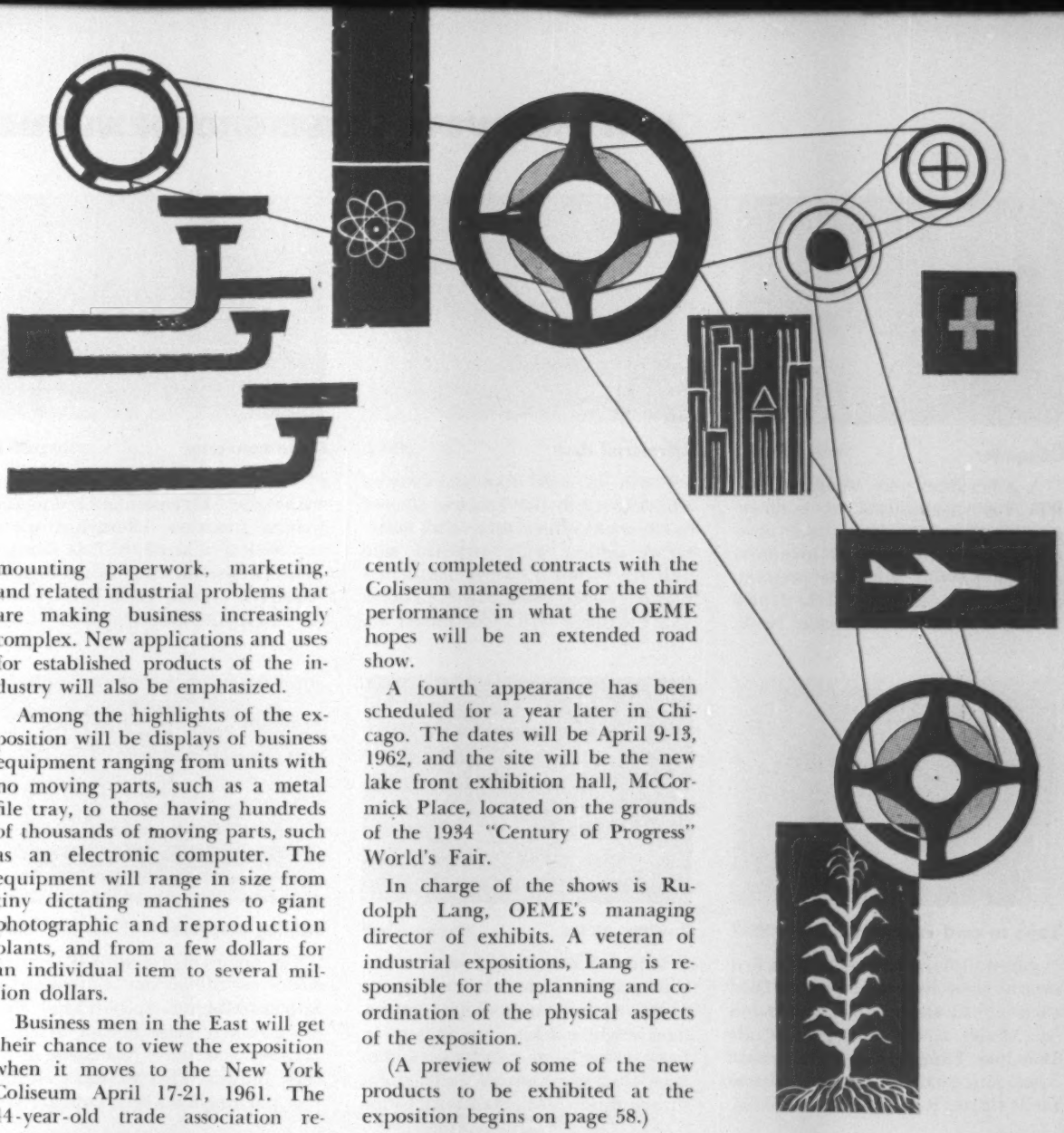
The list of notables scheduled to address the exposition includes Norris Poulson, mayor of Los Angeles; James S. Cantlen, president of the Los Angeles Chamber of Commerce; and Admiral John P. Monroe, commander of the U.S. Navy Pacific Missile Range.

At last count, 61 manufacturers of office, computing, and accounting machines, equipment, systems, and related supplies had announced plans to exhibit their wares. These firms represent 90 per cent of the retail sales of the nation's office equipment business, according to OEME officials. Displays will cover more than two acres within the sports arena.

Beginning at noon on Tuesday, Nov. 1, the four-day show will run until 10 p.m. on Friday, Nov. 4. More than 1,200 leaders from the fields of business, government, and industry have been invited to the opening ceremonies of this exposition of the "industry that serves all industry."

The Business Equipment Exposition will also draw, by invitation only, an estimated attendance of 25,000 to 30,000 business men. Since the theme of the show is commerce in the West, show officials expect that the majority of business men attending will come from the 13 western states, including Alaska and Hawaii.

Exposition spokesmen report that their show is designed to demonstrate not only *what* is new in office equipment and related supplies, but *how* they can be used to solve the



mounting paperwork, marketing, and related industrial problems that are making business increasingly complex. New applications and uses for established products of the industry will also be emphasized.

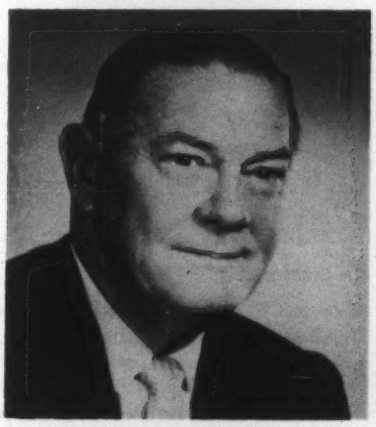
Among the highlights of the exposition will be displays of business equipment ranging from units with no moving parts, such as a metal file tray, to those having hundreds of thousands of moving parts, such as an electronic computer. The equipment will range in size from tiny dictating machines to giant photographic and reproduction plants, and from a few dollars for an individual item to several million dollars.

Business men in the East will get their chance to view the exposition when it moves to the New York Coliseum April 17-21, 1961. The 44-year-old trade association recently completed contracts with the Coliseum management for the third performance in what the OEME hopes will be an extended road show.

A fourth appearance has been scheduled for a year later in Chicago. The dates will be April 9-13, 1962, and the site will be the new lake front exhibition hall, McCormick Place, located on the grounds of the 1934 "Century of Progress" World's Fair.

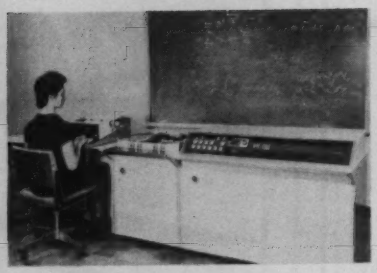
In charge of the shows is Rudolph Lang, OEME's managing director of exhibits. A veteran of industrial expositions, Lang is responsible for the planning and coordination of the physical aspects of the exposition.

(A preview of some of the new products to be exhibited at the exposition begins on page 58.)



Dignitaries scheduled to address the exposition include James S. Cantlen (left) president of the Los Angeles Chamber of Commerce; Los Angeles Mayor Norris Poulson.

NEW PRODUCTS TO BE SHOWN AT THE

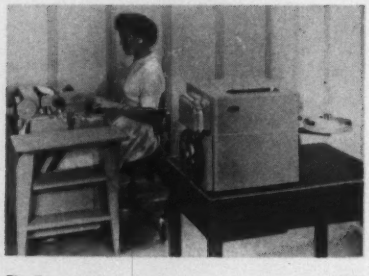


Computer **N-1**

A general-purpose computer, the RPC-4000 is applicable to both engineering and business data processing problems such as inventory control, payroll, etc.. Site preparation is not necessary. The Royal McBee Corp., Port Chester, N. Y.

Secretarial desk **N-2**

Plastic or wood tops and facades lend variety to the Echelon line of modern office furniture. This secretarial station with attached side unit has a top of white laminated plastic. Globe-Wernicke Co., Ross and Carthage Ave., Cincinnati 12.

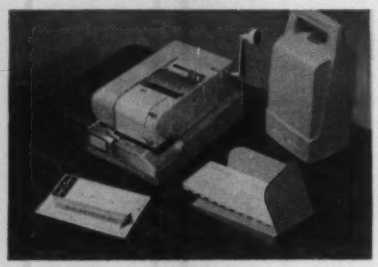


Code converter **N-3**

The Code Converter, shown here with the Flexowriter automatic writing machine, offers high-speed conversion of any 5, 6, 7, or 8-channel code system, one to the other, as required. Friden, Inc., 421 University Ave., Rochester 7, N. Y.

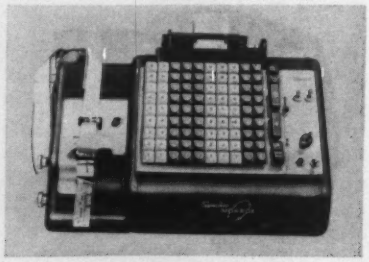
Tape to card converter **N-7**

Any 5, 6, 7, or 8 channel punched tape can be used as input to IBM card punch units after conversion by Model C-750 Universal Code Punched Tape to Card Converter. Systematics, Div. of General Instrument Corp., Redondo Beach, Calif.



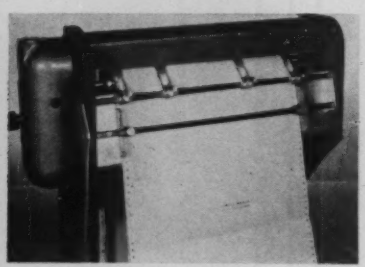
Postage meter **N-8**

Model 5500 postage meter machine prints denominations up to $1.09 in one stamp. The compact, lightweight machine has meter carrying case, large envelope stacker, tape unit for parcels and letters. Pitney-Bowes, Inc., Stamford, Conn.



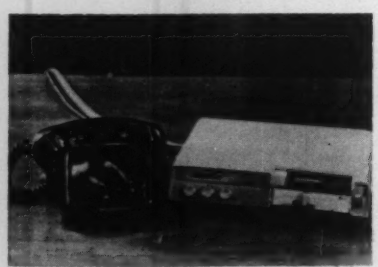
Adding machine **N-9**

Designed for use with data processors of all service bureaus, the Synchro-Monroe Accountants' Program Punch Tape Adding Machine features automatic repetition of all code information. Monroe Calculating Machine Co., Inc., Orange, N. J.



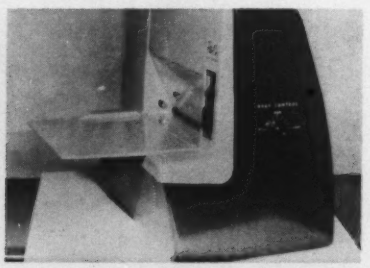
Forms slitter **N-13**

Multiple-copy, continuous forms can be handled by this new lightweight Power Slitter. The unit can be mounted with no tools on the company's Prebursting Decollator or Gravity Carbon Separator. Standard Register Co., Dayton 1, Ohio.



Dictation system **N-14**

A phone and a Time-Master recording machine make up the new, transistorized Telecord System for dictation to secretarial pool; dictating is controlled from telephone handset. Dictaphone Corp., 420 Lexington Ave., New York 17.



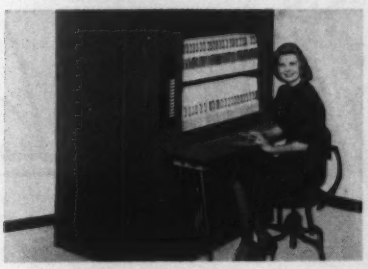
Laminator **N-15**

In less than 10 seconds documents can be protected against moisture, grease, etc., by two Apeco "Ply-On" plastic laminating machine. Heat adjustment is included on desk-top unit. American Photocopy Equip., 2100 Dempster Ave., Evanston, Ill.

BUSINESS EQUIPMENT EXPOSITION

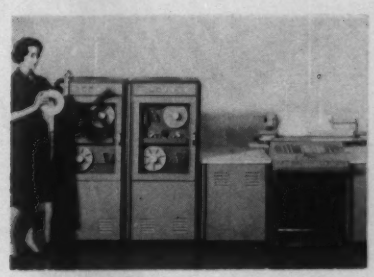
Computer **N-4**

Described by the company as the "simplest and lowest priced general-purpose digital computer yet developed," the DE-60 is a direct-entry computer designed for quick solutions. The Clary Corp., 408 Junipero St., San Gabriel, Calif.



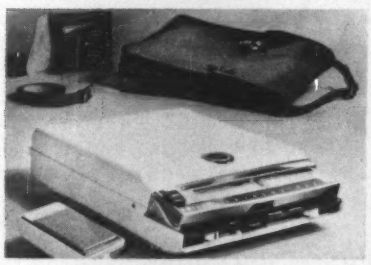
Filing unit **N-5**

Files appear at the touch of a button on the Motorshelf self-contained filing unit. The smallest Motorshelf unit is said to replace 17 average correspondence file drawers. Wheeldex & Simpla Products, Inc., 1000 N. Division St., Peekskill, N. Y.



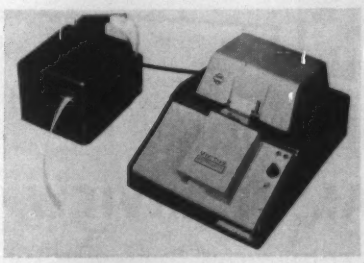
EDP system **N-6**

The Class 390 solid-state electronic data processing system consists of a central processor; console; units to read (or create) punched paper tapes and punched cards; and peripheral equipment. National Cash Register, Dayton 9, Ohio.



Dictating machine **N-10**

For office use or dictating in the field, the "Escort" Voicewriter has the power of standard dictating units. Battery-operated, it requires no positioning for clear recording. Edison Voicewriter Div. of McGraw-Edison Co., West Orange, N. J.

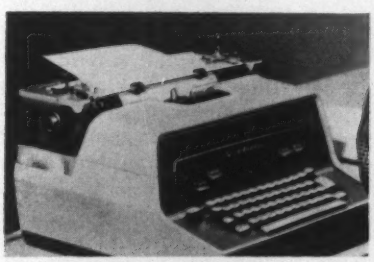


Data punch **N-11**

The new Digit-Matic Data Punch allows remote control of all adding machine operations by large variety of equipment to produce a printed detail tape and punched data processing tape. Victor Adding Machine, 3900 N. Rockwell St., Chicago 18.

Calculator **N-12**

Designed for expedient finding of a grand total, the Duplex electric calculator has two sets of dials, one of which stores figures both positively and negatively for use when needed. The Comptometer Corp., 5600 W. Jarvis Ave., Chicago 48.



Typewriter **N-16**

Light, responsive action is said to characterize the carriage suspension of this new electric typewriter. The machine is available in a variety of decorative colors. Remington Rand Division, Sperry Rand Corp., 315 Park Ave. South, New York 10.

Magnetic tab system **N-17**

Tabulating cards with a permanent magnetic action repel each other to expose top edges of at least 20 cards. Called Magne-Tab, system will function normally in automatic equipment. Business Efficiency Aids, Inc., 8114 N. Lawndale, Skokie, Ill.

Posture chair **N-18**

Model 28-STA Executive Posture Chair features dual control foam rubber seat, foam-cushioned backrest, upholstered front and back, six posture adjustments. Spring back action is independent of tilting seat. Hamilton Cosco, Columbus, Ind.

DON'T GO BY THE BOOK IN THE APPRAISAL INTERVIEW

Seven skeptical comments contradict "rules" of employee manuals

By ROBERT HOPPOCK
Professor of Education
New York University

DO YOU GO by the book in the appraisal interview to review subordinates' performance? Most company manuals, as well as the ready-made manuals put out by business research firms, are well stocked with somber pronouncements on how to conduct the appraisal interview.

Experienced employee relations counselors, however, have discarded many of these recommended procedures. Some have been found ineffective in practice, despite the fact that they are widely used and endorsed. Others have backfired and produced the opposite of the desired effect. Following are seven dubious suggestions taken from company manuals and skeptical comments on each of them:

1. "If the subordinate is emotionally disturbed, postpone the interview."

Yes, if the emotion is unrelated to the job and the subordinate obviously prefers not to talk about it. An example is distress caused by a recent death in the family.

Keep interview flexible

But if the emotion was aroused by something in the job situation, this may be the best time to discuss how the man feels about it. A person who is emotionally aroused will blurt out feelings that he would conceal at other times. By being a good listener, the superior can learn things that would come to his attention in no other way. He can also help his subordinate to express his feelings instead of suppressing them. Strong feelings will eventually find expression in some form. If they are feelings of frustration or of hostility toward the boss or the company—they are better expressed to the boss than to other employees—or to friends and family.

2. "Plan the content of the interview."

Yes and no. A detailed plan, rigidly followed, may steer the discussion away from the matters of most concern to the subordinate. It may thus make him feel more frustrated than cooperative. A better procedure is to do some careful thinking about the purpose of the interview and the various ways in which the purpose might be achieved. Then, go to the interview with flexible plans that can be quickly adapted to the nature of the interview as it develops. Sometimes the responses of the subordinate will clearly indicate that the interview should proceed along lines that could not have been anticipated.

3. "Once the employee recog-

nizes his weaknesses he will usually take steps to correct them."

Not necessarily. How many fat persons know they should diet but do not do it? Nor is telling a man his faults enough to assure his recognition of them. He may reject and resent the appraisal as inaccurate and unfair. Unless he can accept the facts and incorporate them into his own appraisal of himself, he is unlikely to do much about them. Even then he will not improve until he can see that it will be to his advantage to put forth the effort.

4. "After the appraisal, check up from time to time to see that he is doing what he agreed to do to correct his faults."

Yes, if you can do it in a way that expresses friendly interest. Do not nag. Too much follow-up can defeat its purpose by arousing resentment.

5. "Employees say they want to know how they stand with the boss. Telling them relieves their uncertainty and insecurity."

Their uncertainty, yes. Their insecurity, maybe. Suppose they learn that the boss's appraisal of them is less favorable than they had expected. Will this make them feel more secure?

Or suppose you have a subordinate whose work is better than average, but who has one fault that you wish he could correct. In your appraisal interview you mention this fault. You do not know that his parents and his wife have been harping on this point for years, that he has tried to improve, but can never seem to satisfy them. As a result, he is extremely sensitive about it. When you bring up the same topic, you incur all of his accumulated resentment.

If, instead, you had first invited him to appraise himself, he might have told you about this fault, about what he has done to correct it, and about his feeling of frustration. Then, instead of adding to his resentment and his sense of failure, you might have helped restore his confidence and won his loyalty by assuring him that he was a valuable man to the company despite this one imperfection.

When people say they want to know how they stand with the boss, what they usually want is reassurance, not criticism.

6. "The interviewer controls the interview. When the subordinate gets off the track, the interviewer brings him back to the appraisal."

Yes and no. This procedure requires that the interviewer decide what is irrevelant. If no anxiety is apparent, if the subordinate has just been accidentally diverted into talking about his hobbies or his children and the interviewer can see no value in this, if the employee shows no reluctance in changing the subject, the interviewer may, and probably should, introduce or reintroduce the subject of the interview.

Understand the employee

But if the subordinate has been discussing something that is painful to him, he may be seeking temporary respite in another topic. A little relief of this kind may help him to face the unpleasant fact and deal with it more effectively, perhaps in a later interview.

There are also occasions on which an apparently irrelevant digression proves to be highly relevant, sometimes directly to the previous topic, sometimes in what it reveals about the employee and how he feels.

An interviewer trained in aggressive selling may be more likely to cut off his subordinate too soon rather than too late. It is less important for the superior to "control" the interview than for him to understand the employee. Improved behavior is more likely to result from understanding than from domination.

Restore his confidence, win his loyalty.

7. "If the employee becomes angry, try to calm him by explaining again the purpose of the interview and its advantages to him."

Did you ever try this with an angry child? Did it make him less angry? An angry person is in no condition to listen to reason. He is obsessed by the need to express his anger. The best way to restore calmness is to let him express himself fully and freely. Do not try to stop him or to correct him. Just try to understand how he feels and why he feels that way. You may learn something about him — and about the way your actions affect the feelings of your subordinates.

"Do not nag. Too much follow-up can defeat its own purpose!"

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(Circle No. 12 on Reader Inquiry Card)

Rise in business giving predicted for Christmas

Market studies show that American business men this Christmas will use business gifts to a greater extent than ever before, according to the Business Goodwill Advisory Council.

An announcement by the council emphasized that the growth trend is in sharp contrast to last year's reports about a demise for the business gift industry because of the headlines about "payola" and bribery of disc jockeys. The payola scandals, however, have served to clarify the concepts about business gifts as a highly effective means of establishing good will with a customer.

To accomplish optimum benefits from business giving, the council last year published seven recommendations in the selection and distribution of business gifts:

1. Keep your gifts of modest value in relation to the importance of each recipient as an employee, prospect, or customer. Extravagant gifts smack of bribery.

2. Choose your gifts individually, considering the tastes of each group of recipients or, preferably, of each individual recipient.

3. Choose only high-quality gifts that are useful, durable, and dependable.

4. Personalize each gift, if possible, with the recipient's name or initials.

5. Package each gift attractively and securely.

6. Accompany each package with a personal note, greeting card, or at least a special gift label.

7. Deliver each gift with a flair, if possible—personally or by special messenger—and preferably to each recipient's home rather than to his office.

BGAC made a strong point of the fact that "as a result of occasional abuses . . . some business men have made the mistake of forbidding their employees to accept business remembrances before realizing that such a public statement bares basic mistrust of the employees and inevitably results in very poor employee and public relations."

chief executives (indians too!)

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OFFICE MANAGEMENT and AMERICAN BUSINESS sponsors the "Office of the Year" awards, given each year for the past ten years to the nation's six leading new offices.

OFFICE DESIGN

APPLY IMAGINATION TO THE OFFICE WALL

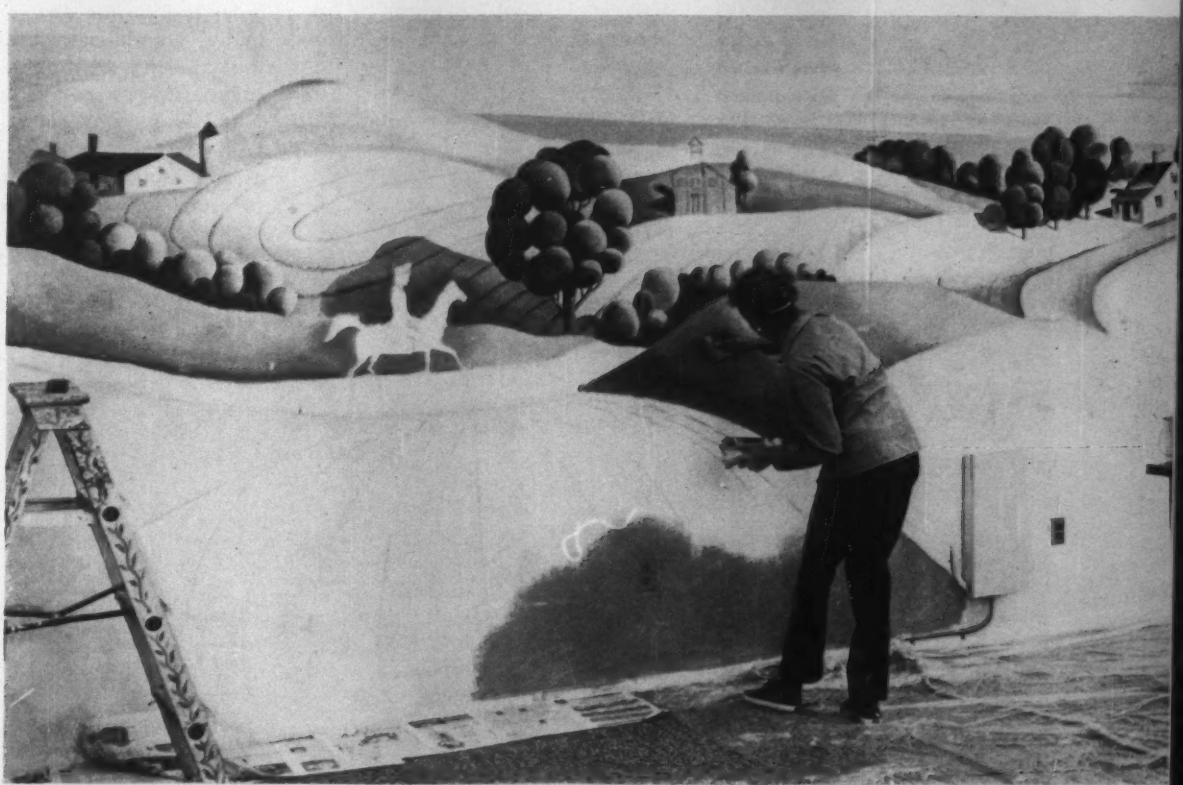
By JOHN M. SINE

WORLD WAR II marks the time of dramatic change and innovation in office design. "Temporary" was an often used designation that dictated stark interiors and a hasty application of paint of battle hue. For the manufacturers of wallpaper it meant the discontinuation of a popular consumer product, a course of events from which they have very slowly recovered. Paint became a much needed war material and was therefore being constantly improved upon. No one needed to decorate with wallpaper.

Through this impetus, the paint manufacturers brought a superior product to the post-war building boom with the result that it is still the No. 1 method of covering a wall. Less technical skill was needed for the application of factory-mixed paint of a pleasing, decorous color, and people who could not master the use of a brush rolled paint blithely over faded walls with a new-found confidence.

Production of synthetic materials, which also characterized war-time ingenuity, pointed a way to success for "man-made" materials during peaceful times, and wall coverings took on a new decorative dimension. Now, vinyl fabrics are synonymous with beauty, strength, and

Muralist Windrow, working at the Tinker National Bank, Centereach, N. Y., conducts George Washington on an historical ride through the Long Island countryside. Familiar landmarks link the present to a significant past.



OFFICE DESIGN

Beware the miraculous claims for color

Hushalon felt wall covering by American Felt Co. softens the aspect of a room.

Yucatan Stone (above) and the sculptural pierced wall (below) are imaginative products of Art For Architecture, Inc.

practicality. Although a wall that has been painted with a quality alkyd flat can be washed several times, the wall does not retain its original spark, and the vibrancy of color diminishes in a relatively short time. Color fastness and durability are qualities being constantly improved upon in paint.

Vinyl retains freshness

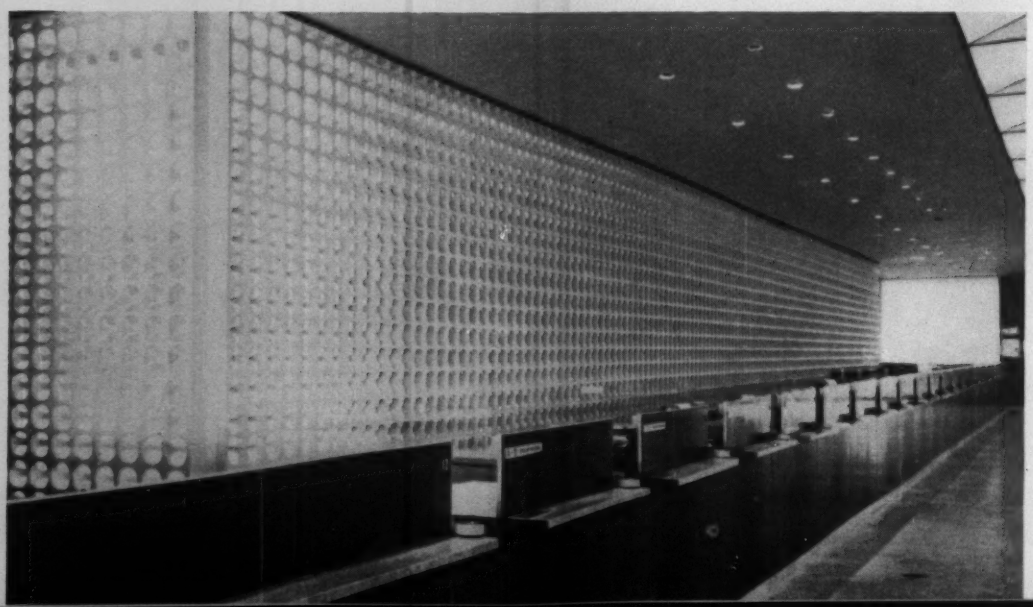
A wall covered with good vinyl fabric, however, will retain its freshness over a longer period of time, and through more strenuous treatment. For this reason, vinyl coverings are readily applied to corridor walls and other areas in which the walls receive abuse. Paint is still the product more often used in decorating executive offices, although grass cloth, natural and vinyl fabrics are enjoying a vogue.

The color flexibility of paint has become especially popular in an age when color has invaded the office with the sanction of psychology. The wonders that color hath wrought in the market place, in stimulating the sales of visually drab products, have fascinated personnel executives and office designers. "Cool," "warm," "refreshing," "depressing," are names applied to colors and color combinations that are often looked upon as secret formulas for unlocking latent personnel capabilities.

The effects of a well decorated, pleasing working environment are undisputed, but the Pavlovian powers of color as applied in office decoration are limited to hypothetical results. A hopelessly incompetent worker is likely to remain so in any environment, and the "right" color combinations (those that have been picked after "many years of scientific research") applied without imagination, are likely to be uncommonly dull. Manipulation of personnel attitudes through color is a boast of some unreasonable decorators who have derived laws from isolated instances and pseudo-scientific observation. Selling a product to a whimsical consumer market requires altogether different attitudes than personnel management; the application of color packaging principles to office decoration can be a misleading practice.

Economic considerations

Economy should be a primary consideration in choosing color for a wall. Does the wall become hand-marked? Do chairs rub against it? There is very often a self-defeating tendency to apply a paint on the wall that is already a dirty color in order to hide the dirt it will eventually accumulate. Vinyl plastic wall coverings are durable, generally color-fast, and easily maintained. The designs available in vinyl fabrics are becoming so numerous as to eliminate design as a serious pre-purchase consideration. Some



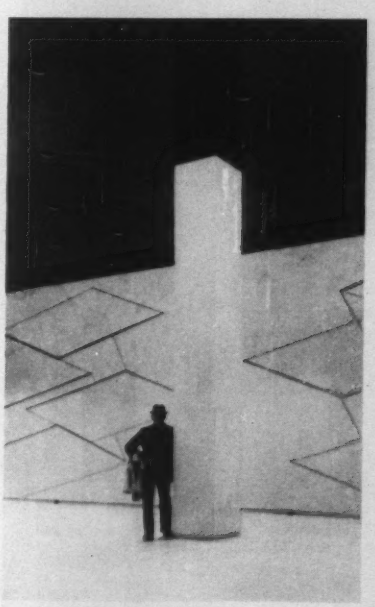
Paneling such as this Algoma architectural cherrywood by U. S. Plywood Corp. is still a favorite wall covering.

vinyl fabrics are colored throughout; others have a base of color fused to the underside of a transparent sheet of vinyl. The colors are generally stable, with the exception of areas that need continuous scrubbing.

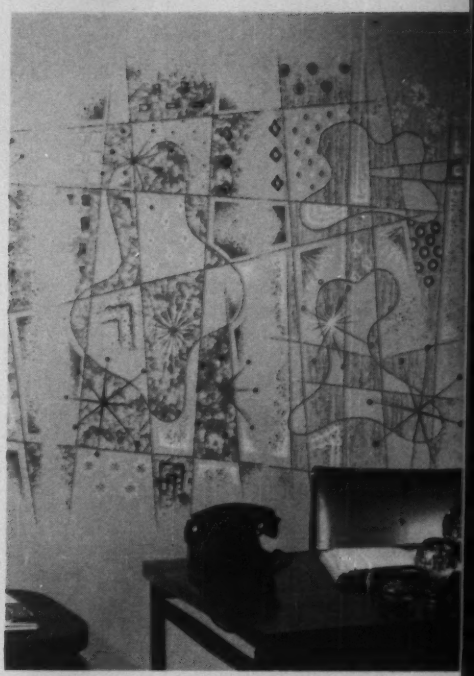
Walls at Socony Mobil

Wall coverings for the pace-setting Socony Mobil building in New York were chosen by a team of planning executives, with the aid of architect J. Gordon Carr, on the basis of four points: original cost, ease of maintenance and resistance to wear, aesthetic potential, and physical properties (acoustical, light reflectance, etc.). Vinyl fabric was chosen by the group to cover the areas exposed to heavy traffic. Walls in other areas, including executive offices, were covered with paint.

The average cost of vinyl fabric, according to architect Carr, is approximately 60 cents per square foot, while the cost of paint is only



Cut into a wall of white Vermont marble, an abstract mural inlaid with gold leaf decorates the recently opened Corning Glass building on New York's Fifth Ave.



A wallpaper scenic from Murals, Inc.

Coffee-breaks pose wall problems

one-sixth of that price. After four years of daily wear at the Socony Mobil building, the vinyl wall fabric is meeting all expectations, with one exception: It does not resist the impact of mail carts and similar gouging objects. To remedy this, the Socony Mobil maintenance department has recommended that tempered masonite be installed along the wall in specific corridors. Other areas covered in vinyl fabric have retained an original freshness that planners say should last another six or seven years. Vinyl fabrics also protect the plaster of a wall, thereby eliminating periodic patch plastering. Once applied, however, the covering is inseparable from the plaster, and requires a tedious if not impossible process of removal. The surface of vinyl is not one that receives ordinary paint, nor can other materials be easily and economically glued over it. A vinyl fabric covering an area that is exposed to medium to heavy traffic is given a life expectancy of ten years, and longer in areas that receive little abuse.

Coffee-break areas are becoming a problem, not only as to floor maintenance, but in wall maintenance as well. Vinyl resists hand prints and body contact exceptionally well, but continuous washing of an isolated area causes a discoloration in some products. The problem has caused architect Carr to plan special coffee-break areas in buildings of the future, where more permanent, stain-resistant materials will be used in special, pre-planned areas of the corridor.

Wallpaper "scenics"

Wallpapers are again becoming popular as a result of new materials and new designs. A wall covering by Polyplastex uses natural fibers and textured fabrics (also real leaves and natural butterflies) covered with an invisible layer of washable vinyl film and backed by a high-quality paper for easy installation. Some manufacturers offer to spray highly designed or scenic wall paper with a plastic to protect its surface. This treatment resists ordinary domestic soilage and costs relatively little.

Scenic wall paper is coming into prominence as an inexpensive, yet artistic, treatment for walls in waiting rooms and reception areas. "Scenics" range in subject matter from industrial to the finely ornamental and can be purchased in three or four color combinations with various background textures.

The wallpaper scenic is generally printed on three to seven separate rolls of paper and applied in the normal manner. New photographic silk screen processes have increased

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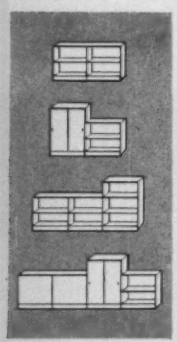

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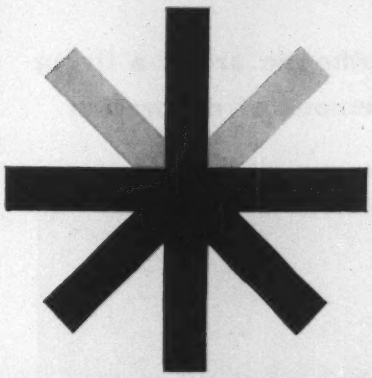

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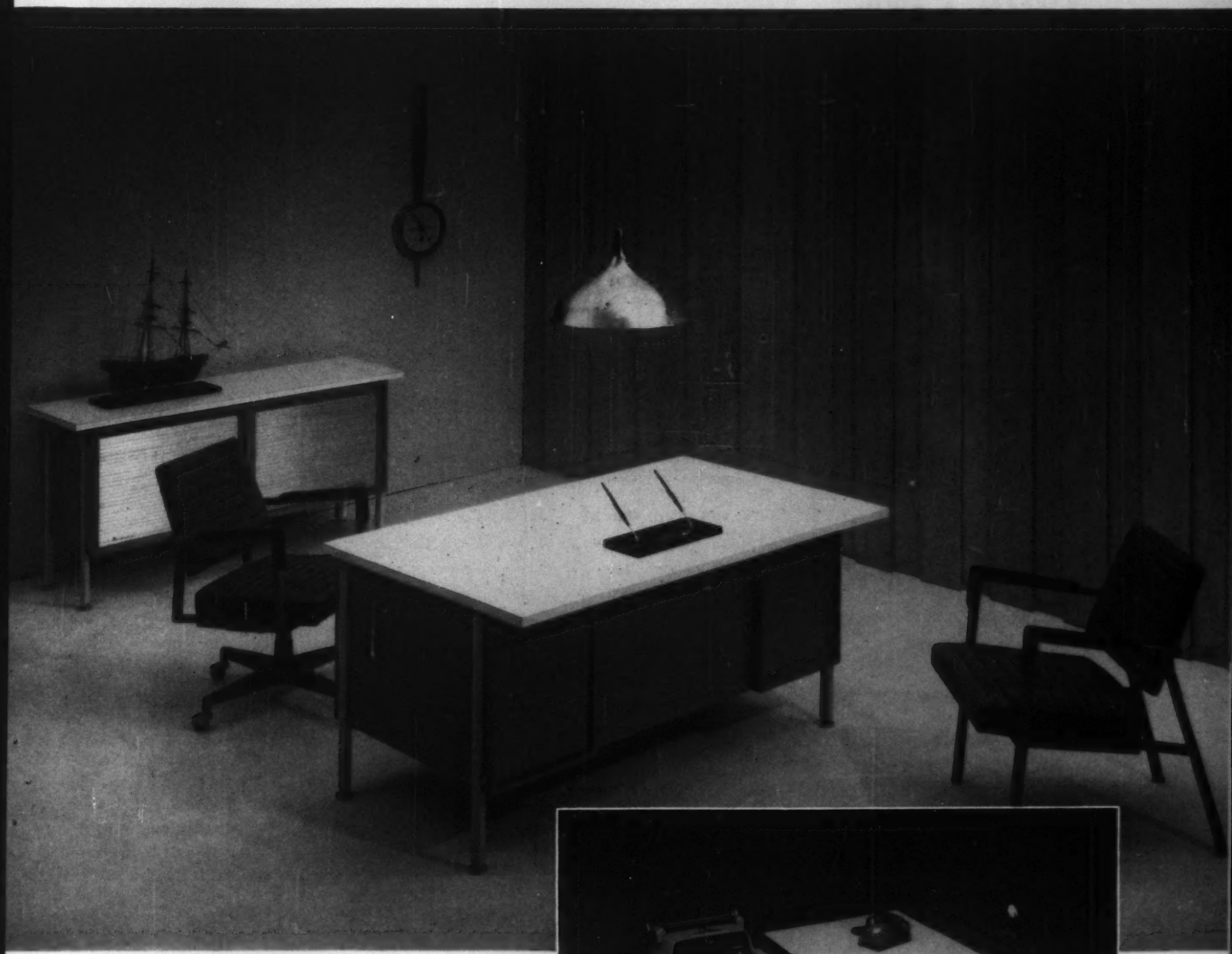

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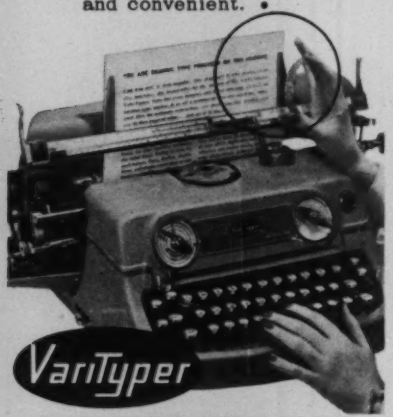

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OFFICE DESIGN

Authentic art is a living element of decoration

Coffee-breaks present a soilage problem that requires special treatment of walls.

the quality of detail available in the scenics, thereby enhancing their desirability. Wallpaper of the same texture, or of an identical color pattern as the scenic, is generally applied to the surrounding walls.

The painted mural

Hand-painted murals are a rare art species in the business office. Practiced and enjoyed more frequently in Europe, the painted mural requires a high degree of artistry and an equal amount of appreciation. The individual business man is reticent about hanging a Currier & Ives print in his office, and has only lately, following corporate indulgence, taken art into his area of business interest. A mural is a committment that the ordinary business man is afraid of making, "... as if they won't be in business next week," says Pat Windrow, practicing muralist on Long Island's svelte North Shore. "I think we have forgotten that a majority of the world's great art is painted on walls, not to mention ceilings, that are centuries old."

With headquarters in the Phantom Horse Art Gallery, Setauket, Long Island, Miss Windrow has numbered among her clients banks, small industry, restaurants, private clubs, and discriminating home owners. One of the most frequent objections voiced against murals by business men, according to Miss Windrow, is the fear of boredom. "They have a bad habit of projecting job attitudes where such attitudes have no relevance. They forget that as an artist, I guarantee them against boredom in my creation — against static, uninteresting 'Factory Art'." According to Miss Windrow, a wallpaper scenic guarantees a certain artistic standard, but it is also limited by that standard. "They use 'safe' colors," she says, "colors that go with everything, which is OK, I guess, if you live that way. There is no limit to the amount of color I use and I am not restricted by mass appeal, and the price is only slightly higher than a wallpaper mural of the same size."

Employee talents encouraged

Further evidence that art is establishing a foothold in business is the number of companies that have encouraged painting and sculpture among their employees. Rewards are given to the most accomplished artist, and an exhibition of his work is held in the company reception area before being placed on perma-

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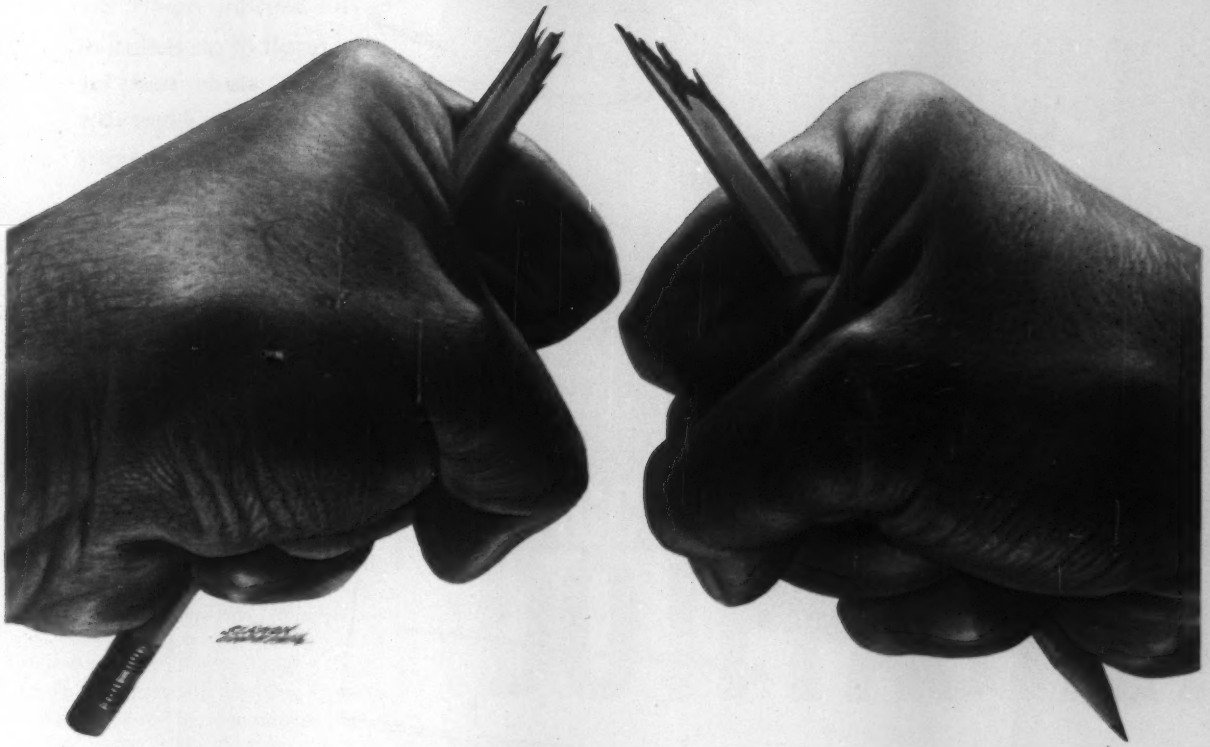

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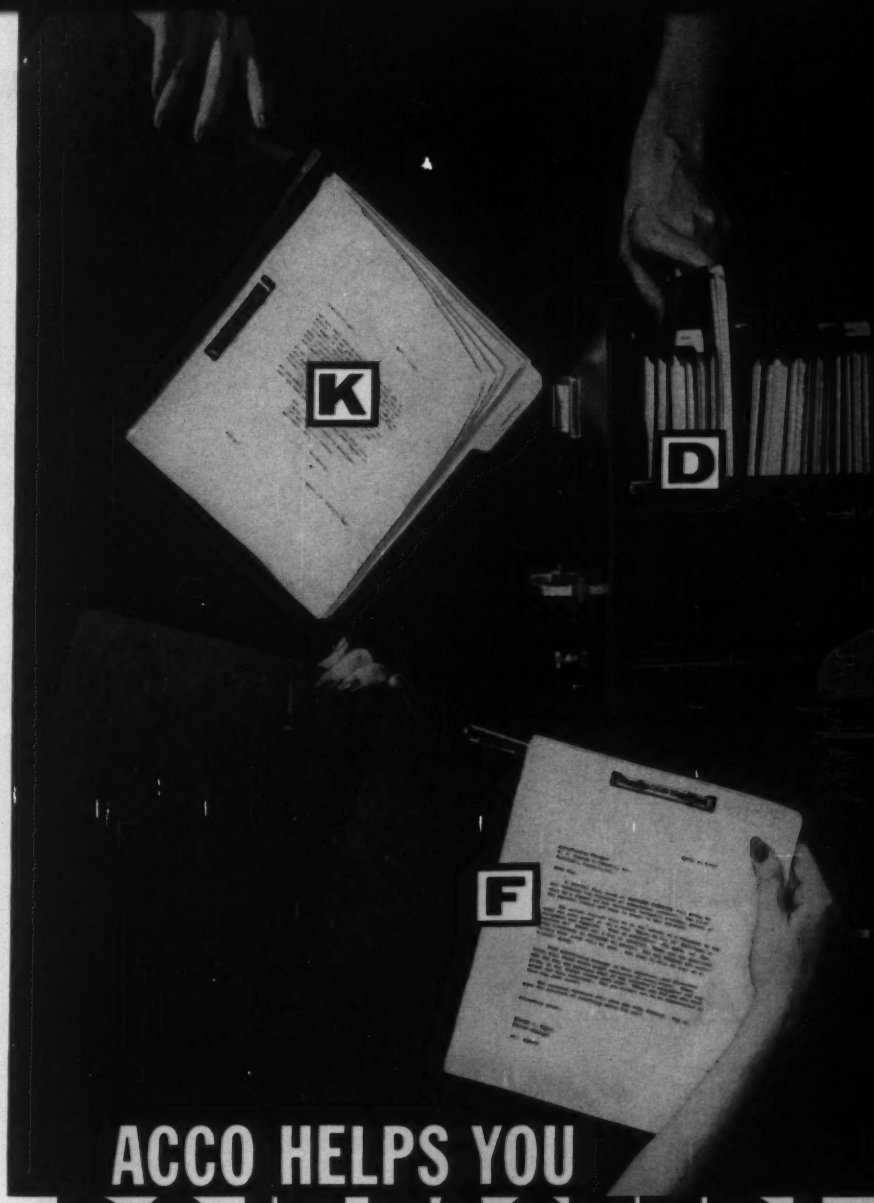
nent display within the building. A trip to obscure galleries and collective art shows often turns up the product of a young artistic talent for a price slightly higher than the cost of materials. If matted water colors or framed oil canvases are desired for decoration, a neutral paint or a neutral colored wall covering of slightly matted design forms a good background.

In areas that require a high degree of acoustical treatment, sound-absorbent materials may be desired for the wall. Acoustical paints are available, as is paneling made of material similar to acoustical ceiling tiles. In some cases, tiles used on the ceiling can be used for walls. Vinyl wall coverings also contain some properties of acoustical efficiency, as do natural fiber and grass cloth wall coverings.

New wall coverings

One of the latest wall coverings on the market, a luxurious wool felt with vapor barrier backing for dimensional stability, has been proven to be an important sound-reducing material. Special treatment of the felt makes it mothproof, soil-resistant, flame-resistant, and easy to install. It is available in 30 different all-solid colors and softens the general aspect of a room. Rough fabrics such as burlap, in a commercially prepared or raw grade, make a highly acoustical wall covering and do not require an excessive amount of upkeep. Wall rugs are an excellent method of reducing room noise and an equally suitable form of decoration. The hand-knotted rugs of creative artists such as Sweden's Bittan Valberg are collectors' items.

For interior walls, where a certain passage of light is desired along with visual privacy, a number of translucent products meet stringent design specifications. Large vinyl panels are available that transmit light without glare and that use genuine Italian grasses, leaves, and other design motifs. For small walls and dividers, Tropicel translucent panels of structurally strong, polyester resin and glass fiber



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OFFICE DESIGN

bonded against geometric cores (honeycomb, color wheels, woodcurl, circlets, etc.) make an extraordinary effect. Available in a variety of colors, Tropicel panels combine the translucent projection of light and bold color through imaginative geometric designs. Glas-Wich, as the name implies, is made of decorative components sandwiched between two sheets of glass and bonded permanently together. The glass can be clear, textured, or tinted, in sizes up to two inches in width. Available patterns range from metallic strands or natural bamboo to the exotic fan leaf of the ginkgo tree. Doors, as well as glass panels, can be fitted with the same, or a complementary, design.

Mosaic and stone

Walls of mosaic have not lost their appeal, although their popularity as a legitimate, artistic medium has been concentrated in office accessories such as ash trays. A high relief modular block called "Yucatan Stone" resembles the hand-carved blocks that decorated temples of the primitive Mayan Indians who occupied Mexico's Yucatan peninsula. The blocks are natural grey in color and make an appealing wall surface.

One of the few sources of color in an office is the wall. It can be painted, decorated, made an object of admiration — or an eye-sore. A wall can become a physical limitation or an asset. It is an important factor in design and decoration. Most of all, it is a challenge to the imagination.

The staff of *Office Management and American Business* wishes to acknowledge the cooperation of the following companies that provided information and photographs: American Felt Co.; Art For Architecture, Inc.; Arvin Industries, Inc.; J. Gordon Carr, architect; Dearborn Glass Co.; The B. F. Goodrich Co.; Albert Van Luit & Co.; Masland DuraLeather Co.; Murals, Inc.; National Design Center; Owens-Corning Fiberglas Corp.; Polyplastex United, Inc.; United States Plywood Corp.; United States Rubber.

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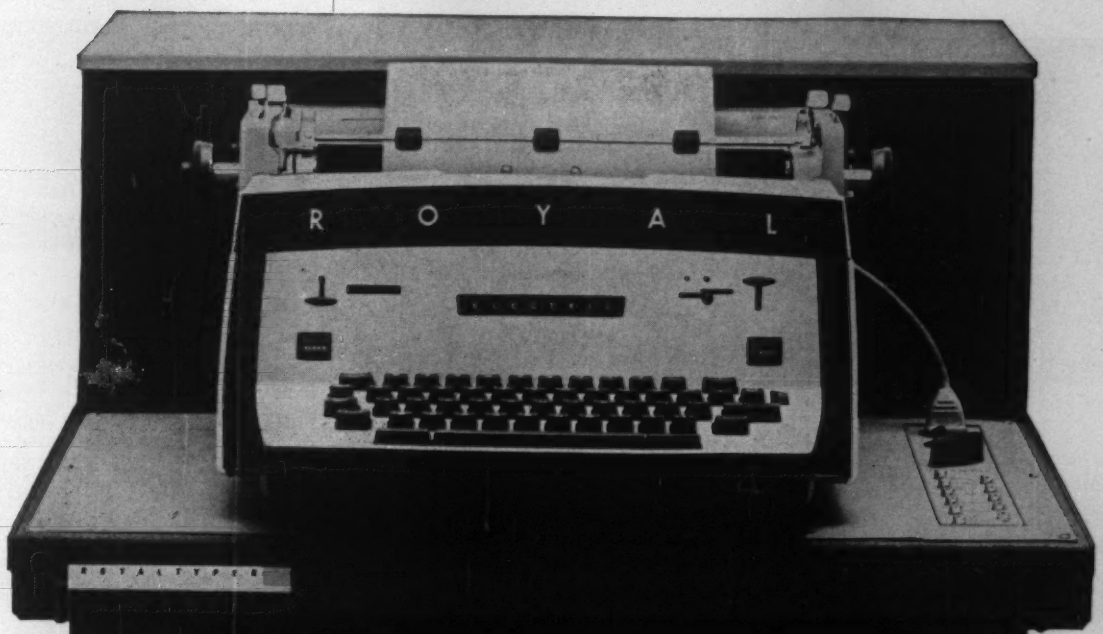

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NEW SYSTEMS AND EQUIPMENT

◀ **Microfilm reader** **N-19**

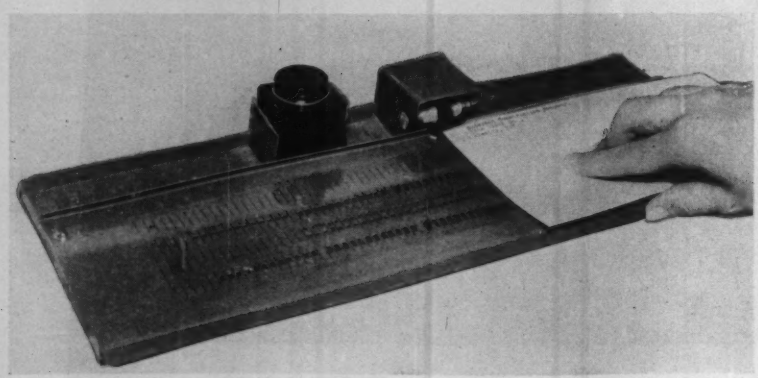
Unperforated 16mm. microfilm in 100-foot rolls is used with the new, lightweight Recordak Model 310 microfilm reader. Less than 20 inches in height, the 310 has a 9- by 12-inch viewing screen that is tinted a soft green to ease operator eye fatigue. The unit is available in reduction ratios of 20:1, 24:1, 32:1, and 40:1. Recordak, 415 Madison Ave., New York 17.

◀ **Refrigerator** **N-21**

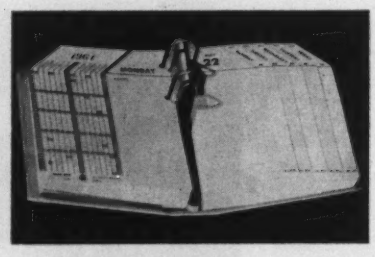
Refreshingly convenient is the built-in Astral spot refrigerator, which runs silently on either AC or direct current. It is available in standard chip-resistant white enamel, modern wood tone, or with a pre-paint finish that can be sprayed to match existing decor. Morphy-Richards, Inc., 232 S. Van Brunt St., Englewood, N. J.

▶ **Rubber stamps** **N-22**

Self-inking rubber stamps with desk stand are made to order with any of five different ink colors. Six lines of copy can be imprinted on each stamp. Stampak, 225 Park Ave. South, New York 10.



See also the section of new products to be displayed at the Business Equipment Exposition in Los Angeles, Nov. 1-4, which begins on page 58.



▲ **Calendar** **N-20**

Every hour of the week may be accounted for at a glance when using the Date-Dex, double-page loose-leaf desk calendar. Trays are made of unbreakable plastic in colors of ivory, light gray, moss green, and marbleized brown. Each Friday sheet is stiffened to allow quick scanning of the week to come. De Mathe - Walker, 2300 Northern Life Tower, Seattle 1.

◀ **Card indexer** **N-23**

The exposed edges of index cards are marked with the Card Indexer for use in the Semi-Visible third-dimension card indexing system. The entire system in which the indexer is used is said to be very economical, more flexible than ordinary systems, and compact. Weatherly Index Co., P. O. Box 103, Tampa, Fla.

NOW

LOW COST, AUTOMATIC REPRODUCTION OF ENGINEERING DRAWINGS... FROM MICROFILM

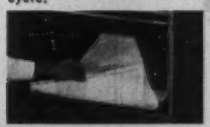
XEROX COPYFLO 1824 PRINTER

MAKES THE SAVINGS OF A UNITIZED MICROFILM SYSTEM POSSIBLE IN SMALL OR DECENTRALIZED ENGINEERING DEPARTMENTS

SIMPLE AS A·B·C

A. Operator inserts microfilm aperture card.

B. Next, operator inserts a sheet of ordinary paper or vellum, or an offset paper master. Insertion starts automatic printing and processing cycle.



C. The first print is automatically delivered in 30 seconds, subsequent prints (of the same or different drawings) every 15 seconds.

Now, you can get a ready-to-use engineering print . . . in seconds and *on ordinary cut-sheet paper* . . . from a microfilm aperture card.

The XeroX® Copyflo® 1824 printer makes 18″ x 24″ prints, or smaller, at an extremely low cost. Also reproduces on vellum or offset paper masters.

Operation is automatic. Prints emerge dry, ready for immediate use, as fast as four a minute.

And the quality of reproduction is excellent. The image is sharp black-on-white and won't rub off. There is no odor, no waste, and the paper may be written on with pencil or pen.

Thus, regardless of your engineering-drawing-reproduction volume, you can now enjoy the tremendous savings in time, money, space, and materials of a unitized microfilm system.

Formerly, such economies . . . from $20,000 to $100,000 annually . . . required a substantial reproduction need to make the system feasible.

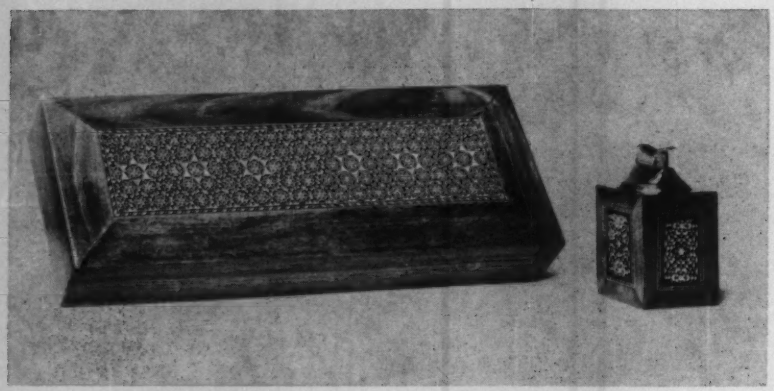
Today, however, the Copyflo 1824 printer brings the same proportionate benefits to small-volume users as to large. No need now for vast files of engineering drawings. Microfilm aperture cards take only a fraction of the storage space required for other reproducibles. No more costly waiting for prints. And prints made by a Copyflo 1824 printer are so inexpensive, your engineers can discard them after use.

Write today for 1824 booklet giving full benefits you can expect from a Copyflo 1824 printer. Haloid Xerox Inc., 60-251X Haloid St., Rochester 3, N.Y. Branch offices in principal U.S. and Canadian cities. Overseas: Rank-Xerox Limited, London.

HALOID XEROX®

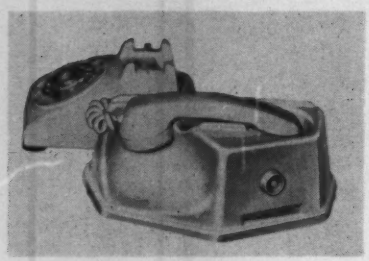
(Circle No. 67 on Reader Inquiry Card)

NEW SYSTEMS AND EQUIPMENT



▲ Cigarette box **N-25**

Walnut cigarette box with mosaic inlay is 11 inches long, 4½ inches wide, and 2 inches deep. A matching lighter of similar hand-made quality is also imported from Damascus. Kamar Import Co., 3018 Crenshaw Blvd., Los Angeles 16.

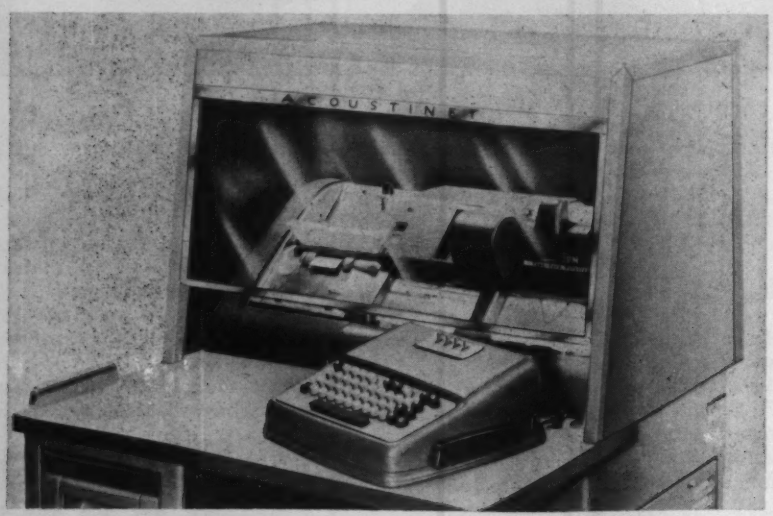


▼ Acoustical hood **N-26**

Key punches, verifiers, and tape-to-card machines are guaranteed a 50 per cent reduction in sound when one uses the Acoustinet Model IDP-100. Lighting is included in all units, and a tiltable shield allows complete access to all moving parts. The unit is designed to rest on the machine and requires no legs or fastening techniques. Gates Acoustinet, Inc., 2690 Sheridan Drive, Tonawanda, New York.

▲ Telephone amplifier **N-27**

Fully transistorized, the Phonex telephone amplifier is completely portable and requires no installation. The precision electronic instrument allows one person or a group to carry on hands-free telephone conversations. Retail price, complete with transistor battery: $34.95. National Marine Corp., 1819 Miami St., South Bend, Ind.



▲ Automatic files **N-24**

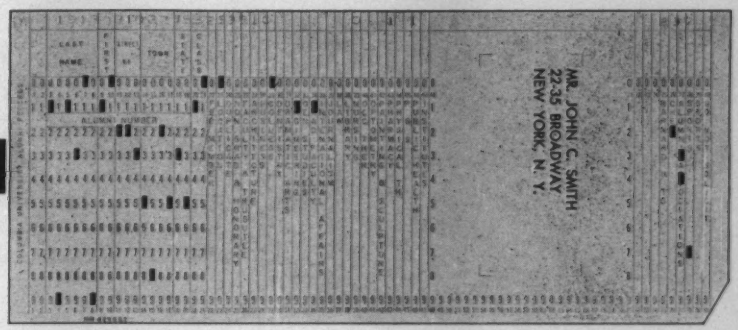
By pushing a button on the selector panel, the operator receives any one of the more than 4,000 records within the Electro Kardex self-contained work unit. A slide containing the desired record automatically positions itself at posting level before the operator in an average of four seconds. Remington Rand Division of Sperry Rand Corp., 122 E. 42nd St., New York 17.

▲ Water cooler **N-28**

Plumbing components are completely enclosed in this water cooler that can be mounted from both wall and floor. Design of the new cooler permits drinking from either side and features a no-squirt bubbler and anti-splash basin. General Electric Co., 14th and Arnold St., Chicago Heights, Ill.

SCRIPTOMATIC ADDRESSING SYSTEM:

each customer's profile . . .

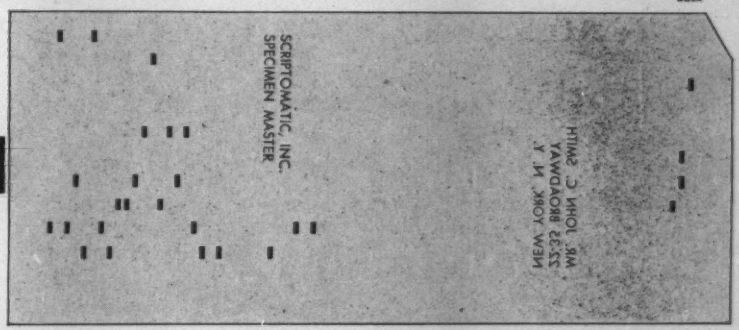


Any punched or plain card becomes a Scriptomatic Master

Front

Back

an address card master . . .



and the key to unequalled list handling flexibility

Scriptomatic Model 10 extends the economies of card masters, (punched or plain) to nearly all list users. Conveyor-stacker available.

A Scriptomatic Addressing Machine "reads" *any* punch card . . . selectively addresses and/or skips, sorts and counts as programmed—and *without* disturbing card file sequence! Masters are made in seconds on an electric typewriter . . . print *directly* to almost any size and type of mailing piece. Address masters remain the integral part of your card filing system. Dollar savings are as substantial as the cost of paper versus metal plates—with bonus savings in lower labor costs and up to 75% less filing space.

Scriptomatic represents the "perfect marriage of punch card records and addressing equipment". No other addressing and data writing system permits such versatility *and* economy for production operations—and there's a Scriptomatic model designed for your specific needs. Write today for detailed data, and case histories in your field.

Scriptomatic

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1111 Vine Street • Philadelphia 7, Pennsylvania

Modern Addressing—Data Writing Machines and Methods

S1003

(Circle No. 73 on Reader Inquiry Card)

P.A. able to perk earlier!

Your Purchasing Agent gets his mail earlier—the specifications, prices, delivery schedules he needs for making decisions—if you have a MailOpener.

- A MailOpener trims a hairline edge off the envelope, neatly, accurately, safely and swiftly. Handles envelopes of any size, weight or stock.
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FREE: *Send for handy desk or wall chart of postal rates, with parcel post map and zone finder.*

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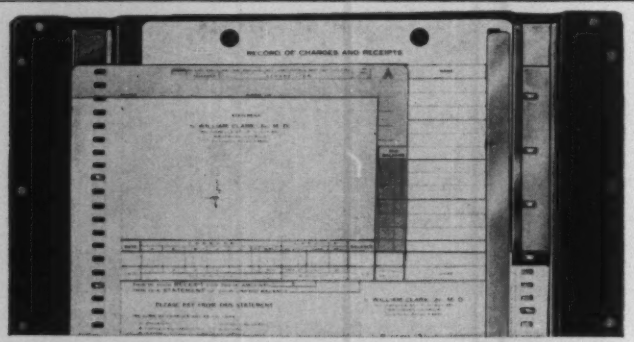
Originator of the postage meter . . .
139 offices in U.S. and Canada.

(Circle No. 62 on Reader Inquiry Card)



1 writing/2-3-4 records!

MULTI-RITE ACCOUNTING SYSTEMS can help you cut posting time up to 75%

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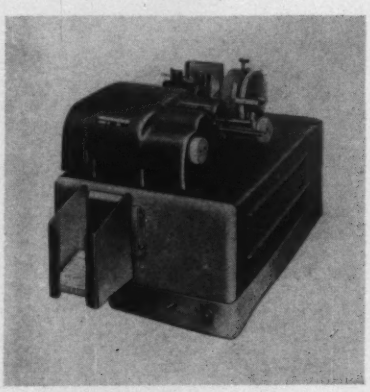
☐ Accounts Receivable ☐ Accounts Payable (Check Writing)
☐ Time Payment Plans ☐ Other:..... ☐ Accounting Forms
Name..... Firm.....
Address.....
City..... Zone..... State.....

YAWMAN & ERBE MFG. CO., INC., C. E. Sheppard Div.
44-13 TWENTY-FIRST ST., LONG ISLAND CITY 1, N. Y.
(Circle No. 74 on Reader Inquiry Card)

NEW SYSTEMS

Dictating machine **N-29**

The Uher Universal S dictation-transcription machine provides eight hours of recording on a five-inch reel of magnetic tape. A hand microphone controls stop, record, rewind, and playback. The Akustomat accessory provides the unit with voice-actuation and slide projector synchronization. Warren J. Weiss, 346 W. 44th St., New York 36.

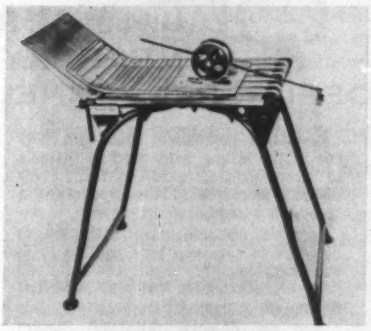


Print-punch **N-30**

Multiple stub tag systems can be used as basic input media when processed by the Numbering Print-Punch machine. The device produces either 20 or 26 digits of imprinted and code punched data, plus a five-digit imprinted and code punched serial number on each stub in a Print-Punch tag. Dennison Mfg. Co., Framingham, Mass.

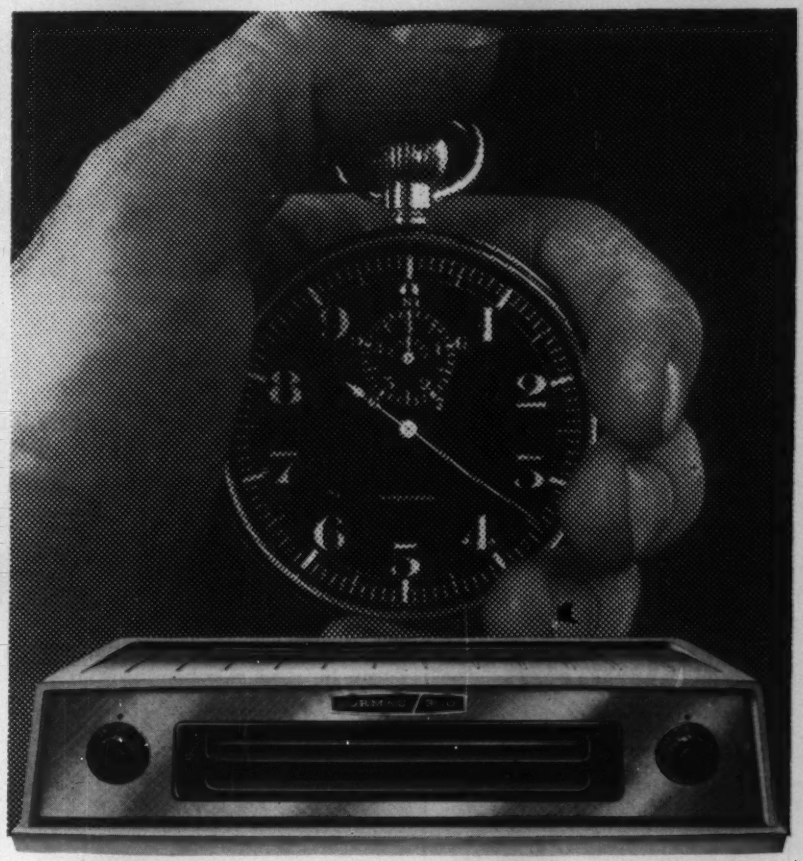
Vending machine **N-31**

Coffee, tea, whipped hot chocolate, and soups are dispensed from the new "300" Brew-A-Cup automatic vending machine. Each cup of coffee is brewed separately from individual "pods" of freshly ground coffee in six seconds; the other beverages are made from dry commodities and mixed internally. Rudd-Melikian, Inc., Hatboro, Pa.



Conveyor-stacker **N-32**

The conveyor-stacker, designed for the Scriptomatic Model 10 Addressing Machine, stacks copy material in order and permits continuous unloading of completed forms without stopping the machine. The unit contains its own motor driven power. Scriptomatic Inc., 300 N. 11th St., Philadelphia.



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Now you can get the unequalled accuracy and copying quality of diffusion-transfer photocopying – with completely dry convenience! No messy pouring or mixing of chemicals. No chance of spills–thanks to Flo-Tronic Control.

Just flip a switch and instantly, electronically, your CORMAC "300" is ready to produce photo-accurate copies of anything you need–letters, sales orders, invoices, ads, articles, signatures, crayon, pen, pencil – even printed matter in any color!

THE NEW CORMAC "300" with Flo-Tronic Control is the fastest, easiest to operate, most fool-proof low cost photocopier on the market. Anyone can learn to operate it in five minutes. Photocopies anything in seconds–even spirit duplications.

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☐ Yes, I'd like a five minute demonstration of the Cormac "300"

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corporation
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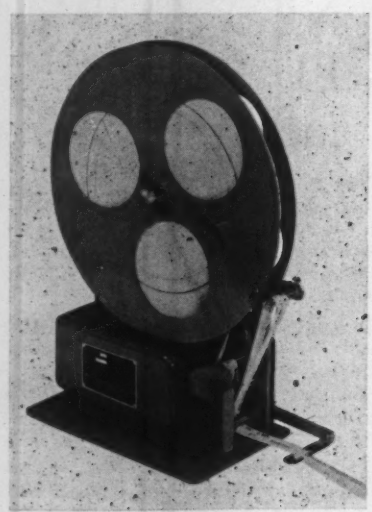
Chicago 40, Ill.

(Circle No. 22 on Reader Inquiry Card)

NEW SYSTEMS AND EQUIPMENT

Postage meter **N-33**

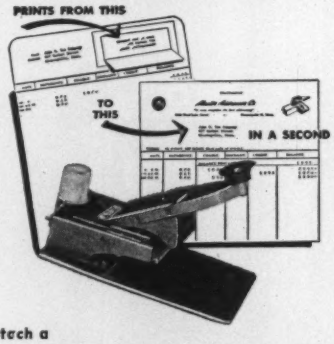
Lightweight and compact, the "Postalia" postage meter prints directly on the surface of any mail item. A flip-out drum filled with fluid from a Postalia tube provides continual inking for several thousand imprints. The five-pound unit can be used as a hand portable, as shown above, or it can be snapped into a manual or electric drive letter sealer for large-volume mailing. Postalia has been approved by the U. S. Post Office Department. Tele-Norm Corp., 55 W. 42nd St., New York.



Tape winder **N-34**

Paper tape is automatically wound with this portable electrically driven device that operates on any flat surface. Winding tension is adjustable; a mercury switch cuts off the motor power when the tape becomes taut. Western Apparatus Co., 5600 Jarvis Ave., Chicago 48.

NOW YOU CAN ADDRESS MONTHLY STATEMENTS IN 1/3 THE TIME



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PRESS-ON MASTER PATCH
to your ledger cards

SAVES TIME! Reduces statement addressing in the average office up to 66%.
PREVENTS ERRORS! Eliminates wrong addresses, misspelling, etc.
ENABLES YOUR LEDGER CARDS TO WRITE! In addition to heading statements and collection notices you can also address direct mail, service follow-ups, shipping labels, bills of lading and other office forms . . . all from your ledger card file.

● Jut type the name and address ONCE on the PRESS-ON MASTER PATCH. They're easily prepared in an ordinary typewriter . . . no special equipment required.

Print With The Model 60 Master Addresser | Machine Complete with Supplies For 500 Accounts $70.00 Plus Fed. Exc. Tax

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6500-OE West Lake St., Minneapolis 26, Minn.
(Circle No. 51 on Reader Inquiry Card)

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You get **BONDED** ($100,000 Blanket Position Bond) and **INSURED** employees, paid by Olsten's.

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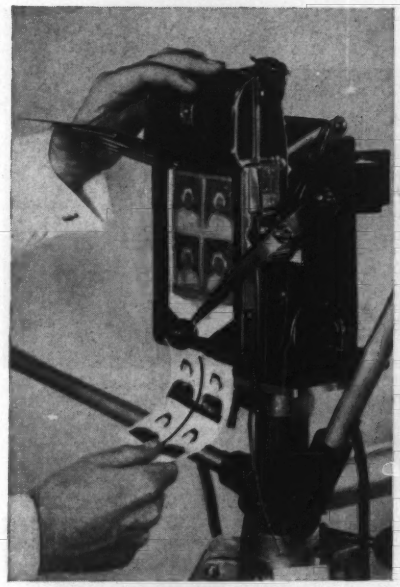
OFFICES IN PRINCIPLE CITIES

OPPORTUNITY! A proven and profitable Olsten's franchise can be yours. Write to executive offices for facts.

(Circle No. 60 on Reader Inquiry Card)



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INDUSTRIAL PRODUCTS DIVISION

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CAMERA AND INSTRUMENT CORPORATION

(Circle No. 33 on Reader Inquiry Card)

NEW SYSTEMS AND EQUIPMENT

Swivel chair **N-35**

Open arm swivel chair for executives has a sculptured walnut frame with crown-shaped latex foam cushions. Jens Risom Design, Inc., 49 E. 53rd St., New York 22.

Closed circuit TV **N-36**

Visual data are transferred instantaneously from the console to any number of monitor TV screens in this visual intercommunications system. Using an ordinary 110 volt light socket for power and connecting cables to receiving monitors, the system can transmit records, blueprints, checks, signature cards, ledger sheets, and other vital business records without interruption. Data may also be transmitted to remote facilities through coaxial cable or microwave. Dage Television Div., Thompson-Ramo-Wooldridge Inc., Michigan City, Ind.

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Pencil Co., Inc., Newark 3, N. J.

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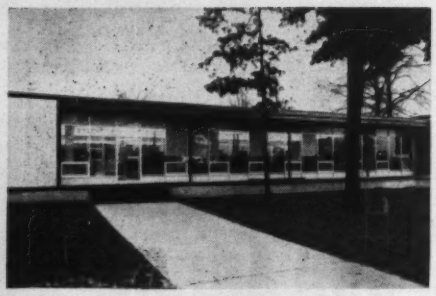

FUTURISTIC EXTERIOR of Colorforms.

A NATIONAL SYSTEM is fast, accurate and efficient.

"Our *National* Accounting System

saves us $5,400 a year...

returns 86% annually on investment." —Colorforms, Norwood, New Jersey

"Ever since we installed a National System, our accounting procedures have been vastly improved.

"For example, the speed of our National Accounting System saves us a great many hours each month. This sizeable time saving results in more current records, up-to-date monthly statements, and the elimination of overtime expenses. Another benefit—faultless accuracy. Formerly our records were compiled by hand. This old method frequently produced errors in addition and errors in entry. However, our National Accounting Machine systematically records all entries . . . computes all totals. Still another service—our National System is extremely flexible. We use it for accounts receivable, accounts payable, payroll, and tax forms.

"Our National Accounting System saves us $5400 a year . . . returns 86% annually on investment."

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Controller of Colorforms.

Your business, too, can benefit from the many time- and money-saving features of a National System. Nationals pay for themselves quickly through savings, then continue to return you a regular yearly profit. National's world-wide service organization will protect this profit. Ask us about the National Maintenance Plan. (See the yellow pages of your phone book.)

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ACCOUNTING MACHINES

ADDING MACHINES • CASH REGISTERS

NCR PAPER (NO CARBON REQUIRED)

THE NATIONAL CASH REGISTER COMPANY, Dayton 9, Ohio

1039 OFFICES IN 121 COUNTRIES • 76 YEARS OF HELPING BUSINESS SAVE MONEY

(Circle No. 57 on Reader Inquiry Card)

ADDING, CALCULATING, BOOKKEEPING, AND ACCOUNTING MACHINES

By MARY D. LYONS

WHEN MARY ELLEN McKEE at the age of 65 finally retired from the Rollo-Craft Manufacturing Co., after 47 years of faithful clerical service, she was asked what she would miss most from her life with the firm. It was her last day, and as Mary Ellen's eyes meandered mistily about the office, they finally came to rest upon a rather ancient looking machine in the corner. She stared at it fondly for a few seconds and then softly replied, "Josie . . . I believe it is Josie that I will miss the most."

"Josie?" asked the puzzled office manager.

"Yes," she replied. "Josie, my adding machine. She was with me through thick and thin. Office friends came and office friends went, but Josie was always there adding away – always dependable, predictable, and a never-ending source of help. I just couldn't seem to get attached to any of the newer machines somehow—you know, the fancy computers and such."

Perhaps Mary Ellen's comments seem a bit foolish and sentimental —the whimsical notions of a retiring senior citizeness but, strangely enough, Mary Ellen's reasoning reflects the significance of the machines to be discussed in this section more vividly than one might think.

For it has long been pondered just what the fate of standard office equipment such as the adding, calculating, bookkeeping and accounting machines will be. In this age of electronic computers and increased mechanization of office procedures, will they be elbowed aside? Well, it does seem extremely unlikely!

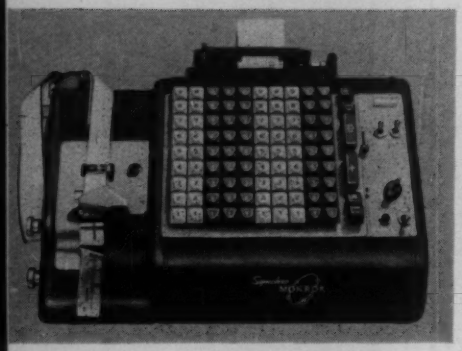
Apart from the fact that data processing equipment is still used primarily for the workloads of the giant corporation, standard office equipment will undoubtedly play an essential role in the day-to-day routines of offices of all sizes.

Also, in spite of the efficient systems programmed into various IDP equipment, work of a seldom recurring or exceptional nature still continues to exist, and standard office machines consistently prove of value in these circumstances. A large number of offices in the nation still do not employ any electronic equipment at all, and the standard accounting machines remain the major work-horses of these offices.

Calculating machines can, of

National Cash Register's new Class 33 machine provides 21 separate totals.

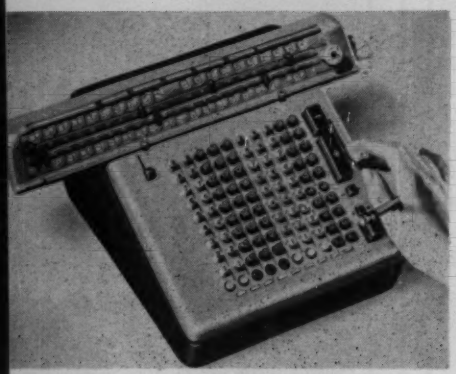
Many models have memory units, recall keys



Monroe Calculating's P-03

Comptometer's Duplex Calculator

Comptograph's Model 12AM



Monroe Calculating's LA-9

Safeguard Corp.'s Chek-gard

Everest's Plurima adding machine

course, handle a variety of work tasks. Aside from their regular duties, many models have a memory unit and recall keys, automatic positioning of decimal points, the ability to extract square roots, compute in the binary numbering system, et al. There is, in fact, a place and a machine for all types of solutions to office figuring and data handling problems. The introduction of complex office equipment, in truth, has not replaced standard machines, except in those instances where the standards were not actually capable of performing their duties at the speeds required. By the same token, the wide variety of equipment available is so gigantic that every office has a far better opportunity than before to acquire exactly the type and size of equipment that it needs.

Adding, bookkeeping, and accounting machines are developing on their own, too. More and more, they are gaining new features to simplify their operations or to increase their capacities. Whether or not their mechanical speeds can be increased to any appreciable degree is a moot question; it is possible, however, to achieve more steps automatically on even the smallest equipment. Such figuring as multiplying and dividing can be broken down into a form of addition or subtraction. What distinguishes the more complex machines from the smaller models is the degree to which the necessary intermediate steps in the figuring operation can be accomplished automatically. On an adding machine, then, multiplication may be performed by repeated addition. On a calculator, the multiplier may be entered on a separate keyboard, so that the operator has less work to do and less opportunity to make costly mistakes.

The characteristic that distinguishes bookkeeping and accounting machines and systems from adding machines and calculators is, basically, the ability to enter descriptive information. These data may range from simple codes or basic information to complete descriptions. An adding machine can be used to handle certain descriptive work through use of the non-add key in connection with numerical codes. But this descriptive feature usually is reserved for bookkeeping and accounting equipment, and this capacity may range from a few simple keys to a complete typewriter keyboard. Moreover, these machines often have more than one register on which to accumulate totals. The more registers, the more complex

Man vs. machine: Accounting machines prove too much for Jack Lemmon in "The Apartment." (Photo courtesy United Artists.)

the machine and the greater the variety of applications it can perform.

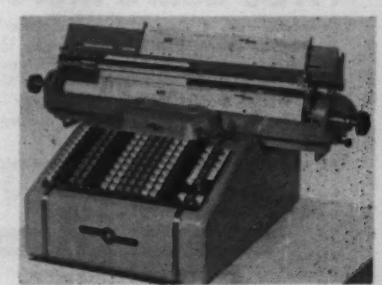
New ideas in office work procedures today usually necessitate greater mechanization, increased study of the work to ascertain which parts are routine and which parts are of a spasmodic or infrequent nature, greater concentration on systems appraisal, and careful planning of the routines to which the various equipment will be applied.

Management administrators have become aware of the importance of mechanization, and more processing of repetitive work is being handled, even if only to a small degree, by some type of systematized machinery. Most offices are not large enough to justify the installation of large machines; it is necessary, then, that routine work be carried out with regard to the capacities of the less complex machines available. It is, quite naturally, foolhardy to purchase machines first and then attempt to make the work fit them, but it is necessary to understand what types of work may be expected from those machines now on the market and to determine the best combination of working method and machine.

Machines best for "routine"

Since standard machines do offer such a wide variety of features and capacities, it is possible to develop many efficient systems and to co-ordinate them with the machines used.

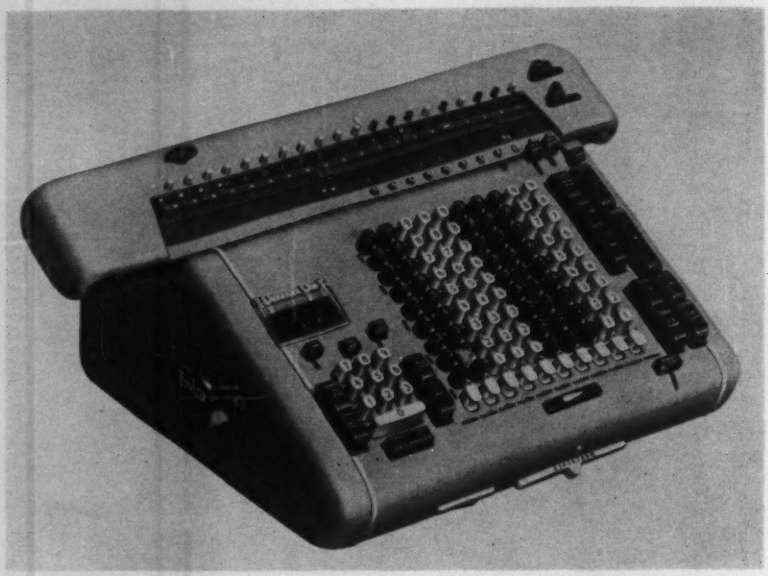
There are, therefore, good reasons why there will always be office jobs large enough to make use of equipment of any size, jobs neither so small as to waste the capacity of the equipment nor so large as to tie up the machine department. Also, the special province of the machine is routine work, and, as we have noted, exceptions must be handled individually. Although large computer installations can be programmed to take care of many exceptions to routine without disrupting the work flow, exceptions



Burroughs' F500 sensimatic

beyond its capacity must be handled by human agency. In many of these instances, the adding or calculating machine will prove an invaluable aid in exception problem-solving. The importance of standard equipment in preparing input material for feeding into the computer is, of course, too obvious to require lengthy discussion here. The accuracy of input data, however, has a direct bearing on the efficient operation of the largest data processor, and speed and accuracy are characteristics of standard accounting equipment when the operator is skilled and experienced.

The final result of high-powered mechanization may, indeed, be the increase in the variety of jobs handled by the operator of standard machines, since these will be utilized in exceptional cases where individual decision-making and judgment are of the utmost importance. Too, consignment of much of the office's repetitive work to the computer will relieve the standard machine operator of monotony and give her the opportunity to handle work of a more challenging nature.



Model SBT Friden calculator accumulates extensions automatically.

Features of integrated data processing have been incorporated into what are otherwise standard office units. Some of these machines have been equipped to produce a common language record of their operations. For example, an adding machine may produce a punched

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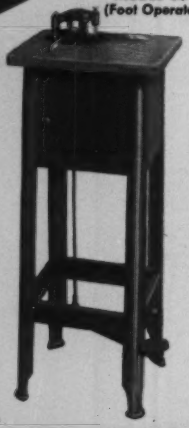
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paper tape as a byproduct of normal figuring operations. Or a bookkeeping machine may be connected to a card punch. By such means, conventional equipment can be made part of large systems in which data can be recorded by one machine in a form to be processed automatically by another machine.

"One-writing" and other bookkeeping and accounting systems are further examples of long-established, standard office equipment. "One-writing" equipment is designed to permit the writing of several accounting forms simultaneously. Forms are placed one above another in such an alignment that items written on the top form can be transferred to the forms beneath by means of carbon. In this way, it is possible to create several different forms that use identical information.

In most instances, only selected items should appear on each form, and provisions are made for prevention of transfer of unwanted information or items. This is achieved by use of spot carbon, or by providing an area printed with a heavy design on which data, although copied by carbon, are not legible on the copies. Certain forms, in addition, can extend beyond the edges of other forms, when properly aligned, so that material which is not to be copied can be placed on the portions that do not overlap. These are only a few of the methods that are used to produce and maintain neat, efficient bookkeeping forms.

Pegboard holds forms

As suggested before, successful arrangements of one-writing accounting system forms rest on three essentials—proper form design, so that information can be recorded in the necessary number of places with a minimum of effort in writing the form and in using the completed form; provision for a suitable device for holding a set of forms in proper registration; and appropriate use of carbon paper or spot carbon. Each of these factors is taken care of by the manufacturers of the equipment and forms.

But the device used to accommodate the forms may be of several types. One popular design—termed the pegboard—consists basically of a flat writing surface which has been equipped with pegs or other means for holding the forms in registration. This type usually features some mechanical device for advancing from one set of forms to the next on completion of each set. This can be achieved by a ratchet and lever system; sometimes the board is actually a box with a roller system for mounting and advancing one or more of the forms after use.

Identical results, of course, can be achieved without use of a board. Some type of loose-leaf binder or other book-enclosed device can be used to hold the forms in alignment. The same principle is used in some kinds of machine bookkeeping with several forms being printed at once. This latter method, however, is not usually referred to as a one-writing system, since this generally implies manual methods.

The majority of the one-writing

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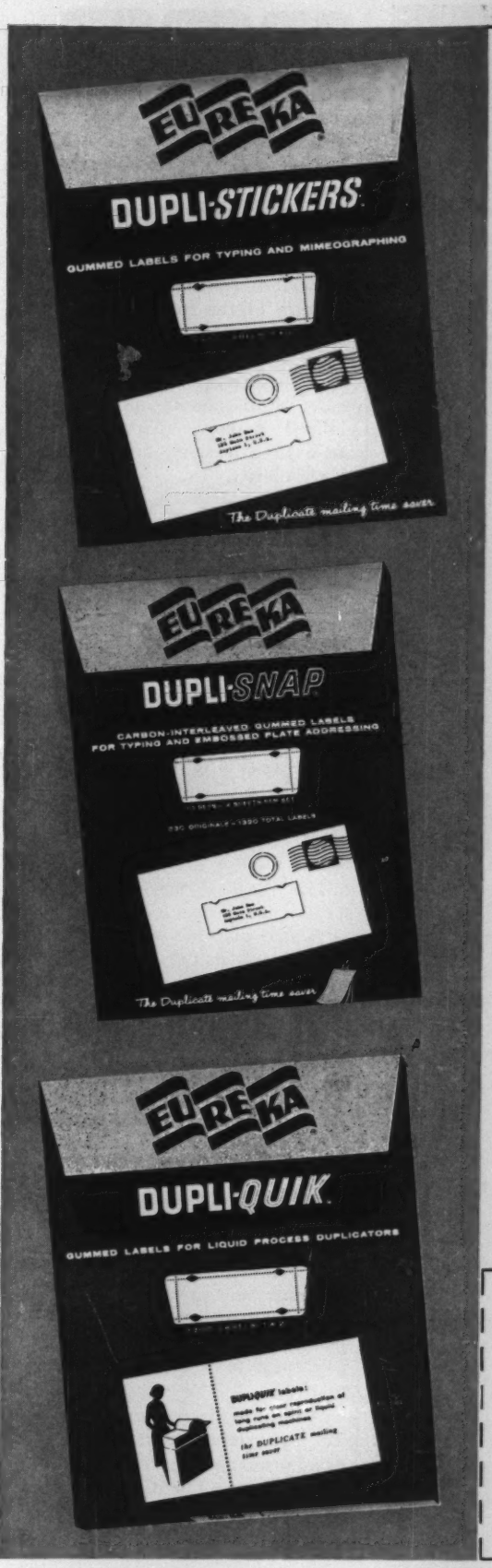

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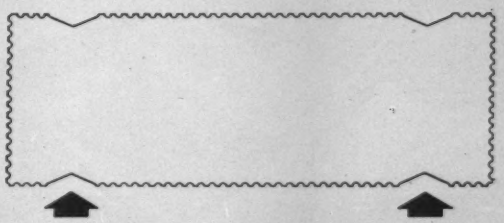

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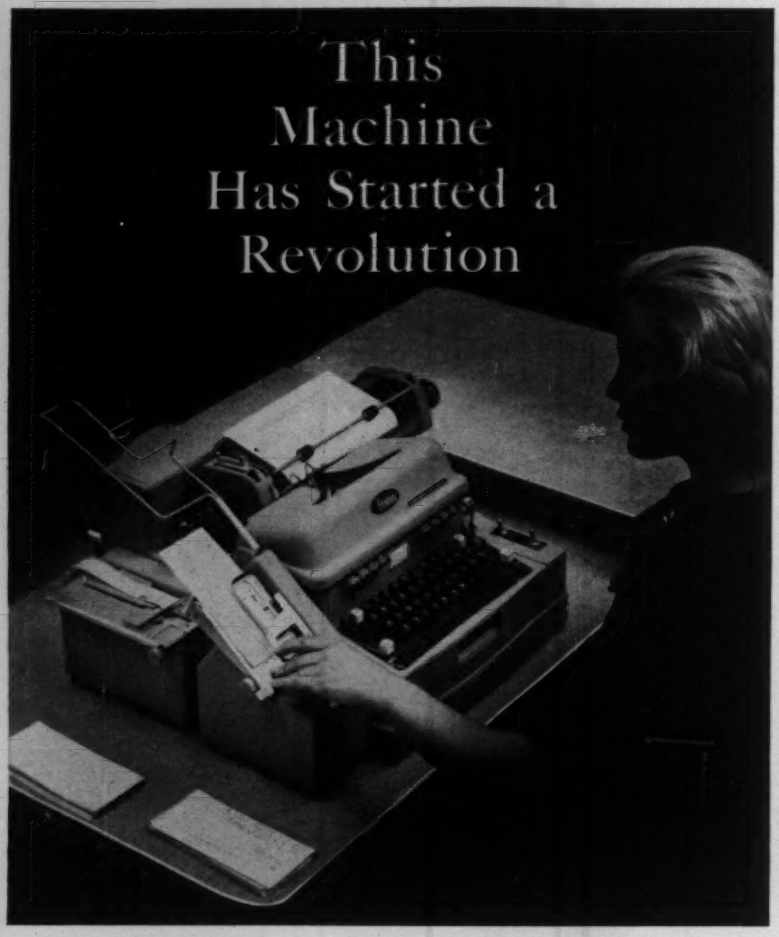

It's called the Friden Programatic Flexowriter. Here it is being used to write sales orders. After inserting a pre-punched card in the reader, the operator touches a key. The machine writes in the entire heading at a speed of 100 words per minute, pausing only to let the operator insert the date.

Next, the girl inserts a card for the first line item on the order. She enters the quantity, and the machine completes the line while she selects the next card. *As it writes*, the machine automatically punches selected information into a paper tape. Later, this tape can be used in any of three ways: 1) Run back through the Flexowriter to produce a complete written summary of orders, 2) Fed into a Friden Computyper to prepare *invoices* automatically, 3) Fed into a card punch to prepare a tab card for each order. (Or, when required, the Flexowriter itself can directly control tab card punching.)

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systems are used in small companies, or in the small departments of large companies, for such applications as payroll, accounts receivable, accounts payable, and inventory. Other uses are possible, but the ones listed are the most common. The difference between one application and another lies in the selection of the forms, rather than in the design of the basic equipment. Reports from manufacturers suggest that wider applications are under development and that specialized systems, apart from the one-writing variety, are increasing in popularity.

Four totals at once

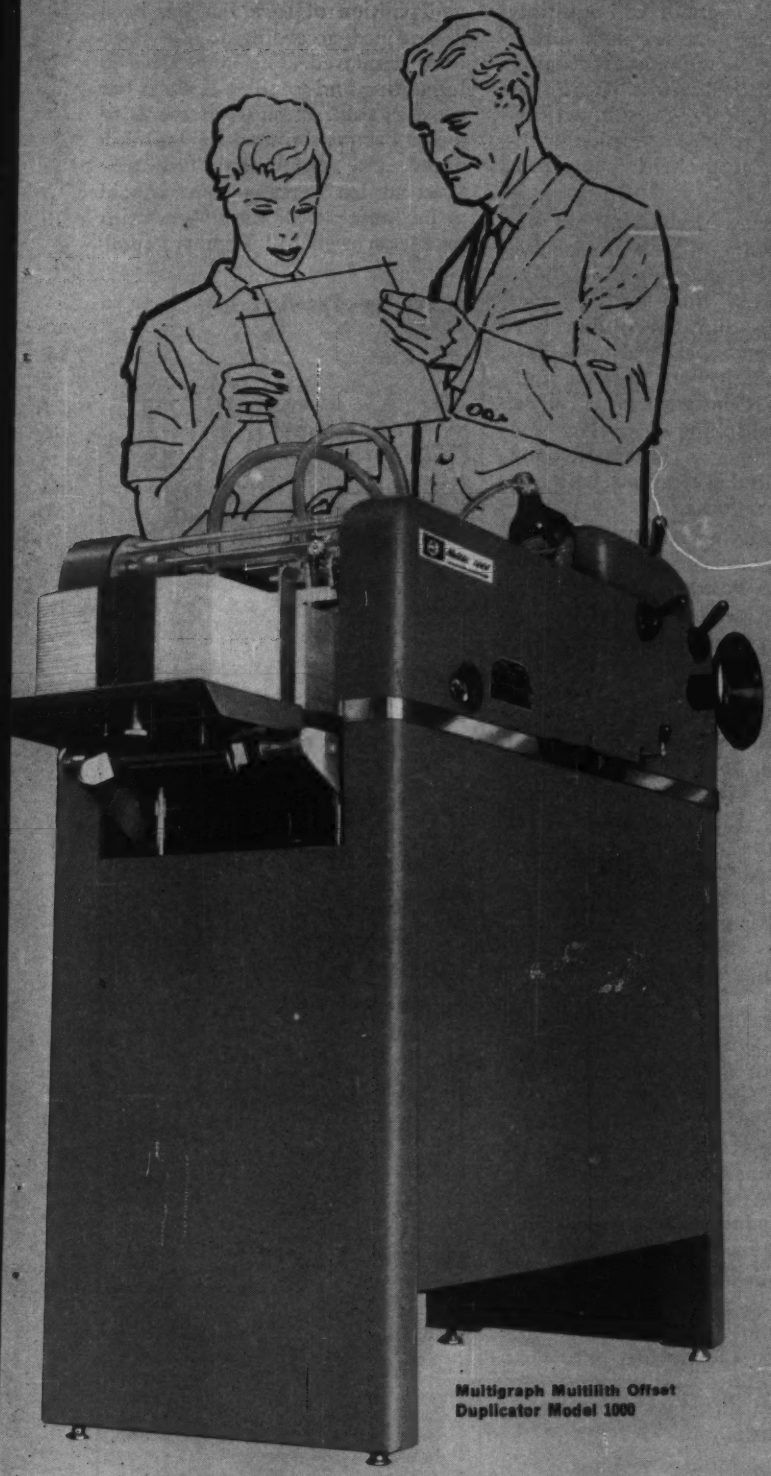
Twenty-one separate totals are available in The National Cash Register Company's new Class 33 accounting machine. Automatic credit balances are obtained from all 21 totals; the machine may be programmed to create as many as four totals in one operation, and the depression of a single key automatically totals or subtotals all 21 totals in sequence, making possible a complete daily statement of posting.

The Class 33 machine also protects the amounts on checks by automatically printing the dollar sign immediately to the left of the highest dollar amount. The machine will automatically determine if the operator has made an incorrect pickup. A single-key reverse entry control provides instant correction of erroneous postings and reversal of accounting entries without need for changing program or determining which totals must be affected.

The Class 33 has removable program bars which may be altered to meet changing requirements of particular accounting jobs. Removable program bars provide flexibility in the design of forms, and are said to permit a variety of bookkeeping applications to be placed on a single machine.

A built-in electric typewriter with 72 characters facilitates accurate description of all entries and simplifies auditing. The Class 33 is also available without a typewriter.

Comptometer Corp. recently an-



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nounced the Comptometer Duplex Calculator, which has a memory unit. Designed to eliminate the need for reworking figures to arrive at a grand total, the new Duplex has two sets of dials, one of which stores figures both positively and negatively for use when needed. An easy-to-use, two-key control simplifies operator decisions.

Comptometer also has the versatile Automatic Printing Multiplier Comptograph. It automatically multiplies, printing the right answer as well as both multiplicands in three horizontal lines. The new 12AM Comptograph will multiply three or more factors in a direct, straight-line flow without re-entry of intermediate results. It is said to add, multiply, or subtract, regardless of previous operation, without setting or pre-setting any controls.

Friden's new Model SBT has separate control keys for accumulative and negative multiplication. Like Friden's STW line, the SBT has both eight- and ten-column keyboards, offers separate control keys for accumulative and negative multiplication. Constant factors can be locked. Positioning of carriage and decimal points is automatic, and there is split dial clearance with dial accumulator locks.

Victor Adding Machine Co. recently announced the new Digit-Matic Data Punch, a digital device that allows remote control adding machine operation through the use of solenoids with both a printed detail tape and a punched data processing tape resulting. It can be activated from distant points and by a wide variety of associated equipment. Attestment to the versatility of the Digit-Matic Data Punch is the feasibility of having it programmed by equipment now programming other digital handling or data processing devices.

Vertical bar used

It is possible to activate the unit through digital converters, communications systems, control instruments, digital counters, digital testing equipment, flowmeters, production scales, pulse height analyzers, temperature recorders, time interval meters, typewriters, and similar industrial, business, and laboratory instruments.

Simultaneously, from each such operation comes a printed record for immediate information plus punched tape for further automatic handling. The punched tape contains coded information in 5, 6, 7, or 8 channels.

Victor Adding Machine Co.'s latest entry into the field of adding machines is the new Premier. Available in both 10-key and full keyboard models, an interesting innovation in the Premier is the use of three separate motor bars to eliminate non-essential hand movements. Located in a vertical row, the length and position of each bar has been determined according to the functions employed. The longest bar is for adding and totaling. A short bar provides subtraction while the third motor bar can be used for both addition and subtotaling. This new "vertical bar" arrangement is said to facilitate use of the finger touch system on even full keyboard models.

Ten-key Premiers also have a

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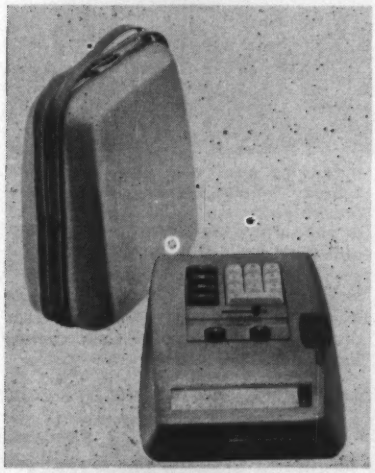
larger, "L-shaped" cypher bar for easier thumb control, and an electrified "live" correction button which erases easily.

Available in both hand and electric operation, the Premier can be obtained with 8-, 9-, 10-, or 11-number listing capacity, and up to an eleven totaling capacity.

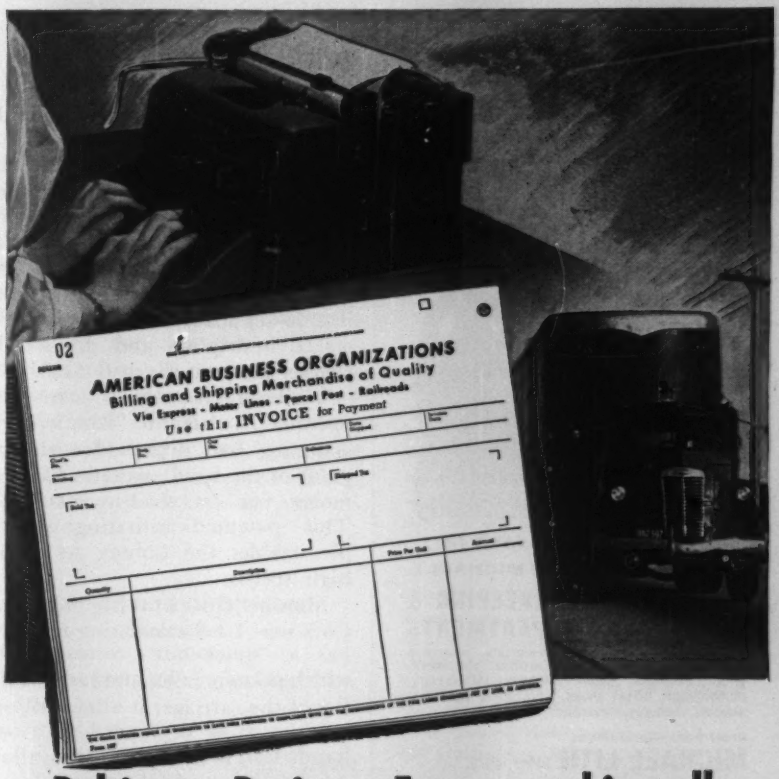
Monroe Calculating Machine Co., Inc., recently announced a source data originator designed for data processing in accountancy. The new product, available in both single-register and duplex models, is the Synchro-Monroe Accountants' Program Punch Tape Adding Machine. The P-03 succeeds two earlier punch tape adding machine models, combining the features of both and offering several new features.

Compatible with data processors of all service bureaus, the portable Accountants' Program machine universalizes source data origination in processing for accountants. The machine features automatic repetition of all code information, eliminating the need of re-indexing repetitive reference numbers. Another new feature is Accountants' Program keyboard symbols, providing clear-cut identification of operating controls.

In Accountants' Program data processing, accounting information is recorded on punched tape. Tapes are processed at data processing service bureaus, and printed accounting records and reports are



Bohn Duplicator's Contex 10-key calculator costs $125, weighs only six pounds.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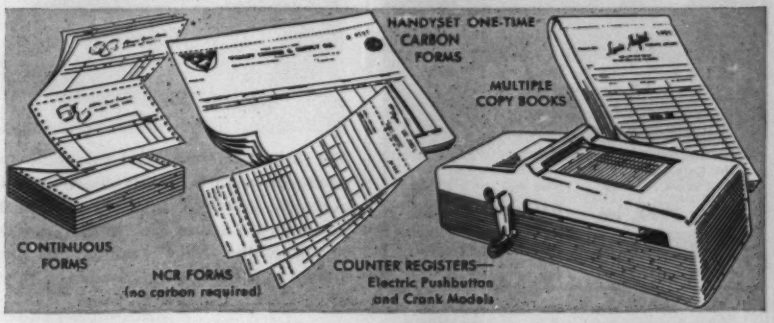
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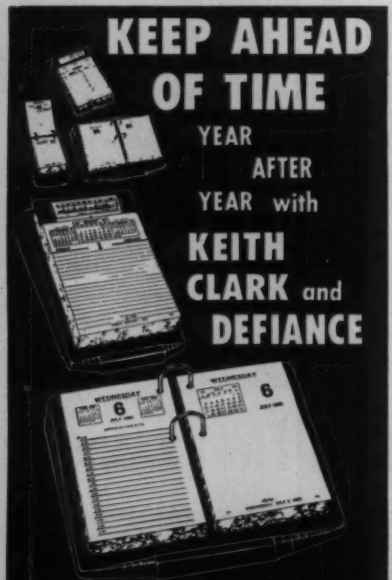

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(Circle No. 17 on Reader Inquiry Card)

TOOLS OF THE OFFICE

returned to the accountant for his clients.

Bohn Duplicator Co. has announced a new model of the Bohn Contex Calculator with several improvements in division. Division is now more automatic than it had been heretofore. The Bohn Contex is a 10-key machine that adds, subtracts, multiplies, and divides. It weighs six pounds, costs $125.

While the Contex is manually-operated it has no "handle." Its actuating bar, depressed with the palm of the hand, operates like the motor bar on electric machines. This patented actuating principle enables the Contex to attain high speeds.

Monroe Calculating Machine Co.'s new LA-9 calculating machine has a "quick-shift" control lever which permits easier and faster shifting of the carriage; it allows all operations to be performed with one hand. Carryover upper dials allow "short-cut" multiplication. It is available in two capacities: The LA-203, with ten-column keyboard, ten counting dials, and twenty-place result dials; and the LA9-163 with 8-8-16 capacity.

Alma Office Machine's newest addition to the world of adding machines is the Everest Plurima adding machine which is a ten-key hand adding machine with automatic credit balance.

The future of standard office machines, then, it seems, is not so shaky. Adding, calculating, bookkeeping and accounting machines will continue to perform the chores of office tedium; they will uncomplainingly and efficiently, like a troop of diligent soldiers, continue to aid the operations (of offices all)

The Stromberg Transactor automatic data collection system shown above was incorrectly identified as a product of the Stromberg Carlson Co. in last month's "Tools of the Office" feature. The manufacturer is Stromberg Division, General Time Corp., Thomaston, Conn.

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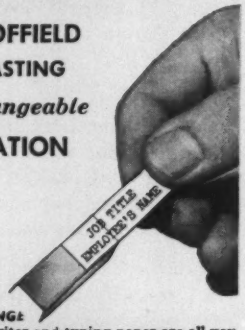

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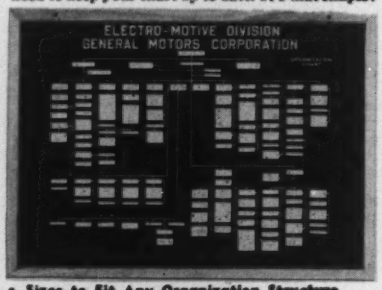

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TOOLS OF THE OFFICE

over the country—while the more glamorous aspects of business work are left to their big brothers, the giant computers.

It has been established in this section too, one hopes, that many new mechanical devices have been integrated into this type of equipment. So they are not such dull fellows, after all. And who knows what new changes may come about in the near future.

The following is a list of some of the major manufacturers of adding, calculating, bookkeeping and accounting machines.

Adding and Calculating Machines

Addo-X, Inc., 300 Park Ave., New York 22.

R. C. Allen Business Machines, Inc., 678 Front Ave., N.W., Grand Rapids 4, Mich.

Alma Office Machine Corp., 34 E. 30th St., New York 16.

American Voss Corp., 18050 James Couzens Highway, Detroit 35.

Bohn Duplicator Corp., 444 Park Ave. South, New York 16.

Burroughs Corp., 6071 Second Ave., Detroit 32.

Calculator Equipment Corp., 556 Central Ave., Orange, N. J.

Clary Corp., 408 Juniper St., San Gabriel, Calif.

Classic Calculators, Inc., 387 Park Ave. South, New York 16.

Comptometer Corp., 1735 N. Paulina St., Chicago 22.

Control Systems, Inc., 5 Beekman St., New York 38.

Facit, Inc., 404 Park Ave. South, New York 16.

Fremaco International, Inc., 188 Randolph St., Chicago 1.

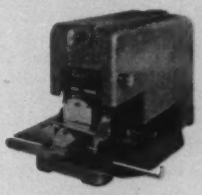
Friden, Inc., 2350 Washington Ave., San Leandro, Calif.

The General Gilbert Corp., 150 Broadway, New York 38.

Johnston Adding Machine Co., 13343 Sherman Way, N. Hollywood, Calif.

Lanston Monotype, Div. of Lanston Industries, Inc., 24th and Locust St., Philadelphia 1.

The new
ROBERTS E-77
for precise
ELECTRIC NUMBERING



The Roberts E-77 - heavy duty electric numbering machine is a highly versatile unit designed to number through carbons with exact positioning of the number through adjustable left, right and rear work guides. Instant choice of consecutive, duplicate and repeat. Eight styles of numbering heads to choose from, with figures up to 5/16 in. Die plate offers 1¾ sq. in. of message space. Throat depth six inches, automatic cutout protects solenoid, plastic front safety guard, reversible rubber platen, choice of hand or foot operation. Roberts Numbering Machines have been famous since 1889. Write Roberts Numbering Machine Division, Heller Roberts Mfg. Corp., 700 Jamaica Ave., Brooklyn 8, N. Y.

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The result of a symposium held at System Development Corp., this book covers the whole field of developing modern management controls, starting with current development and continuing with future predictions. Shows *how* computers make it possible to design entirely new management patterns. Also deals with the use of computers to simulate company activities for testing and evaluating the effects of policy and procedure prior to adoption. *1960. 374 pages. $7.25.*

EXPLORATION IN MANAGEMENT

By WILFRED BROWN, *Glacier Metal Co.*

Describes the organizational system which has evolved in the author's own company. Regarded as a social institution in microcosm, this is the story of how an operating company became a cohesive society. *1960. 322 pages. In Press.*

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Olkon Research Corp. of America, P.O. Box 3049, Asheville, N. C.

Regna Cash Registers, Inc., 175 Fifth Ave., New York 10.

Remington Rand, Div. of Sperry Rand Corp., 315 Park Ave. South, New York 10.

Silver Bells, Ltd., P.O. Box 982, Carmel, Calif.

Smith-Corona Marchant, Inc., E. Washington St., Syracuse, N. Y.

Swift Business Machines Co., 51 Church St., Great Barrington, Mass.

Underwood Corp., 1 Park Ave., New York 16.

Victor Adding Machine Co., 3900 N. Rockwell St., Chicago 18.

Bookkeeping and Accounting Machines

Addo-X, Inc., 300 Park Ave., New York 22.

R. C. Allen Business Machines, Inc., 678 Front Ave., N.W., Grand Rapids 4, Mich.

American Voss Corp., 18097 Sorrento Ave., Detroit 35.

Ayres Corp., Box 1081, Wilmington, Calif.

Bates Accounting Forms Co., Inc., 33 W. 42nd St., New York 36.

The Blackbourn Systems, Inc., 230 S. Cedar Lake Rd., Minneapolis 5.

Burroughs Corp., 6071 Second Ave., Detroit 32.

Business Systems Corp., 436 Pearl St., New York 38.

Carteret Printing Co., 480 Canal St., New York 13.

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The Denominator Co., Inc., 261 Broadway, New York 7.

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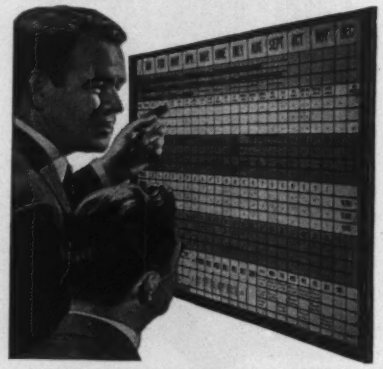

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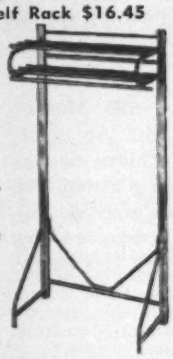

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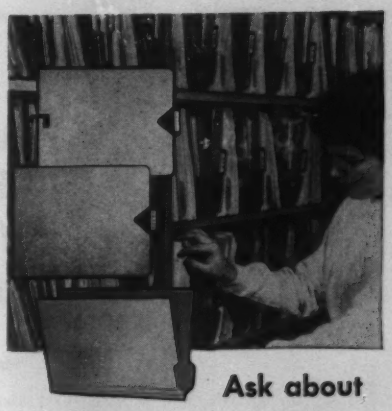

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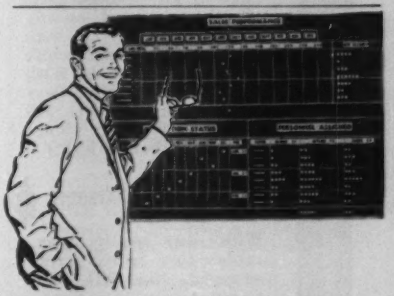

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Conference recorder **C-1**

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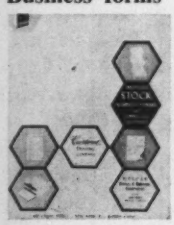
Real root evaluation **C-2**

Remington Rand Division of Sperry Rand Corp., 315 Park Ave. South, New York 10. A graphically illustrated booklet (U 1888) presents a program of real root evaluation with the Univac 120 punched-card computer based upon the Newton-Raphson Method.

Filing system **C-3**

Tab Products Co., 995 Market St., San Francisco, Calif. An eight-page illustrated brochure depicts the new Tabtray Filing System for vertical handling of machine accounting cards. The system features a vertical card tray that can be indexed at both ends.

Business forms **C-4**



Carteret Printing Co., Inc., 480 Canal St., New York 13. Stock business forms, systems, and correlated equipment are shown in 22-page illustrated catalog. A full description of all items is given with various prices indicated according to quantity orders.

Micro-reproduction **C-5**

Dept. SO-372, Minnesota Mining and Mfg. Co., 900 Bush Ave., St. Paul, Minn. New standards and specifications of the Defense Department's engineering data micro-reproduction system are discussed in a six-page folder. Aperture cards are illustrated.

Forms for tab systems **C-6**

Uarco, Inc., Dept. TA, 300 West Congress Parkway, Chicago 7. "Get More Results From Your System" is a booklet describing business forms especially manufactured as automatic input for tabulating systems. Tab card sets are also illustrated.

Steel furniture **C-7**

Art Steel Co., 170 W. 233rd St., New York 63. A 52-page catalog depicts the Steelmaster line of office equipment including desks, chairs, files, and utilities.

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Vacation chart **C-9**

A 1961 vacation chart that presents the entire year in weekly divisions with space to list 50 employees is being made available at no charge to readers of *Office Management and American Business*. Dept. OAS, The Dartnell Corp., 4660 Ravenswood Ave., Chicago 40.

Computer chart **C-10**

The "Computer Characteristics Chart" lists salient features of 43 "U.S.-built, general purpose stored-program electronic digital computers for which orders are currently (or until recently) being solicited." The colorful, accordion-fold chart lists each computing system in order of decreasing rental to bring comparable systems into relative proximity with one another. Computer capabilities and characteristics are listed under five major categories: general characteristics, internal speed, magnetic tape, peripheral equipment (both input and output), and special features. Although a few changes in equipment have been introduced since the chart was published, it remains a thorough statement of available computer systems performance. Supplementary sheets will be issued periodically to up-date the chart. Adams Associates, Inc., 142 The Great Road, Bedford, Mass.

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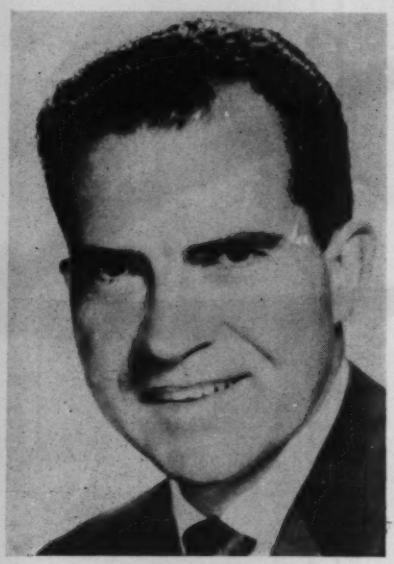
Editorial

LET'S TAKE A LEAF FROM THE CAMPAIGN

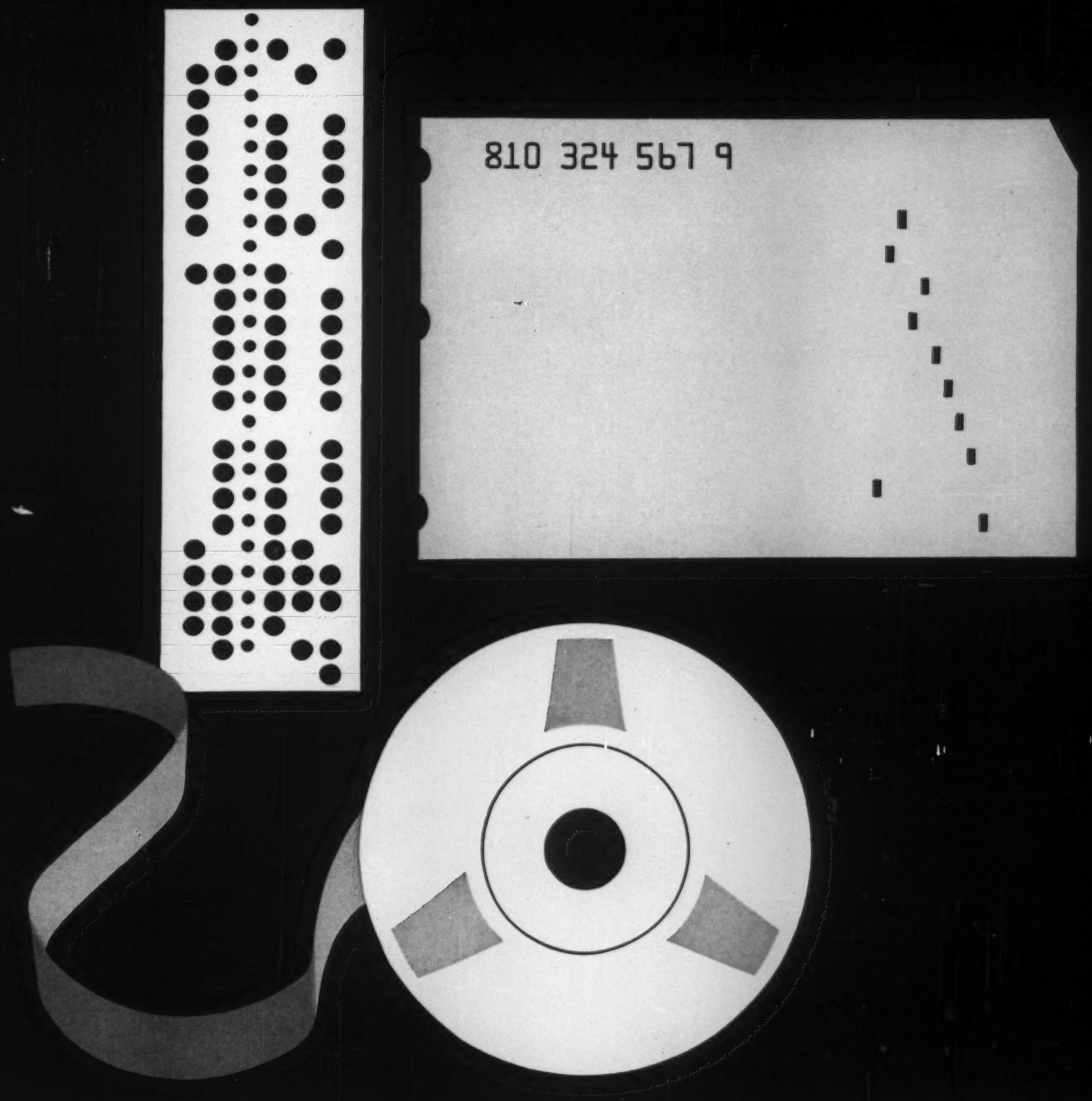


THE FOURTH of the "great debates" between the Democratic and Republican Parties' Presidential candidates has now been held. The effect the debates have had is, of course, a matter of conjecture, and perhaps will remain so until the eighth of November. Just how many voters were decided — or even swayed—by them, we won't know until that date.

But, regardless of their outcome in terms of electoral votes, it seems to us that the debates have had one very important result. They have held the campaign to a level which there was no guarantee it would have maintained otherwise. There is an infinity of difference between leveling charges at an opponent when one faces a sympathetic audience, with one's opponent half a continent away and unable to reply effectively, and making the same charges on a television program where he is guaranteed an immediate and possibly devastating reply. The net result: We have witnessed, on the most dramatic presentation of the candidates within this campaign, far more sense, and far less irrelevant emotionalism, than we have ever had in previous campaigns. Each candidate, whatever his inclinations or his instincts, has had to hold more or less to the "high road." Retribution and exposure would have been too swift, too certain, too disastrous, had he done anything else.

It seems to us that this poses an obvious example to the office, or any other environment where people work together, and so, inevitably, have differences of opinion. Direct confrontation between contending parties is always the most honest, the most revealing, the best guide to the merits of their respective arguments. Why? Simply because the lie, the innuendo, the false or specious argument, cannot be used safely. Each can be exposed too easily if—and it's an important "if"—the victim knows it's being used. How many petty office squabbles have dragged on until they became major issues simply because they were not cleaned up in the first place through the simplest and most effective measure possible—calling both contending parties in, letting them face each other and thrash out their differences in the presence of each other, as well as that of the executive who must decide who is right and who is wrong. It's amazing how the most static "mistakes" will dwindle when the person who is supposed to have made them is there to reply to the charges and give his side of the story.

Let's take a leaf from the mutual policing the debates have made possible in the campaign. If we do, the office will run a lot more smoothly in terms of personnel problems, and—all other things being equal—it's apt to come up with far more sensible ideas and policies as well.



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